

Electronic supplementary material

- **Article title:** Solar observations with single-dish INAF radio telescopes: continuum imaging in the 18 – 26 GHz range
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Table ESM.1.: Summary of Medicina and SRT observations. *ID* indicates the identification number for each single map, where the letters *M* and *S* specify the radiotelescope (Medicina or SRT); an asterisk flag is shown for images presenting significant artifacts. *Epoch* indicates the observation date, *T* the acquisition time interval of the map, and ν_{obs} the central observing frequency; σ_{disk} represents the standard deviation of the solar disk brightness distribution with respect to the QS level reported in Table 3 of the paper. AR_n indicates the number of identified ARs in each solar map.

ID	Epoch	T (UT)	ν_{obs} (GHz)	σ_{disk} (K)	AR_n
<i>M1</i>	2018 Feb. 15	11:20-12:20	24.1	129.8 ± 4.0	1
<i>M2</i>	2018 Feb. 15	12:22-13:22	24.1	114.5 ± 3.6	1
<i>M3</i>	2018 Feb. 19	10:14-11:30	24.1	102.4 ± 3.8	1
<i>M4</i>	2018 Feb. 19	11:33-12:49	24.1	145.2 ± 3.5	0
<i>M5</i>	2018 Feb. 27	09:39-10:50	23.6	160.2 ± 4.2	1
<i>*M6</i>	2018 Feb. 27	10:52-12:02	23.6	269.4 ± 18.6	1
<i>M7</i>	2018 Mar. 7	13:50-15:00	23.6	129.5 ± 3.9	1
<i>M8</i>	2018 Mar. 7	15:02-16:05	23.6	148.0 ± 7.0	0
<i>M9</i>	2018 Mar. 9	12:11-13:20	23.6	180.5 ± 5.1	1
<i>M10</i>	2018 Mar. 9	13:22-14:33	23.6	134.0 ± 3.9	1
<i>M11</i>	2018 Mar. 28	10:05-11:20	23.6	103.1 ± 3.1	0
<i>M12</i>	2018 Mar. 28	11:22-12:37	23.6	126.3 ± 3.4	0
<i>*M13</i>	2018 Mar. 30	09:45-11:00	23.6	137.1 ± 4.3	1
<i>*M14</i>	2018 Mar. 30	11:02-12:18	23.6	121.9 ± 3.5	2
<i>M15</i>	2018 Apr. 2	09:45-11:00	23.6	145.5 ± 4.8	2
<i>M16</i>	2018 Apr. 2	11:02-12:18	23.6	171.6 ± 4.1	2
<i>M17</i>	2018 Apr. 6	10:34-11:50	23.6	163.8 ± 3.8	2
<i>M18</i>	2018 Apr. 6	11:52-13:07	23.6	156.3 ± 3.5	1
<i>*M19</i>	2018 Apr. 7	09:39-11:26	23.6	121.6 ± 3.3	2
<i>M20</i>	2018 Apr. 7	11:28-13:14	23.6	155.0 ± 4.0	0
<i>M21</i>	2018 Apr. 12	10:20-11:22	18.1	133.6 ± 3.1	3
<i>*M22</i>	2018 Apr. 12	11:24-12:26	26.1	228.3 ± 7.4	0
<i>M23</i>	2018 Apr. 13	07:30-08:39	18.1	103.5 ± 2.8	1
<i>*M24</i>	2018 Apr. 13	08:40-09:47	26.1	175.1 ± 5.2	1
<i>*M25</i>	2018 Apr. 13	10:00-11:09	22.1	132.8 ± 2.8	3
<i>*M26</i>	2018 Apr. 13	11:11-12:20	18.1	100.7 ± 3.1	3
<i>M27</i>	2018 Apr. 17	10:45-11:47	18.1	219.0 ± 8.4	1
<i>M28</i>	2018 Apr. 18	11:20-12:29	18.1	121.2 ± 2.4	5
<i>M29</i>	2018 Apr. 18	12:31-13:40	26.1	209.6 ± 5.1	1
<i>M30</i>	2018 Apr. 19	09:40-10:43	18.1	128.6 ± 3.8	2
<i>*M31</i>	2018 Apr. 19	10:45-11:48	26.1	264.2 ± 7.0	0
<i>M32</i>	2018 Apr. 20	07:40-08:58	18.1	108.8 ± 2.4	2
<i>M33</i>	2018 Apr. 20	09:25-10:39	26.1	217.8 ± 5.6	1
<i>M34</i>	2018 Apr. 20	10:45-12:03	23.6	153.8 ± 3.4	1
<i>M35</i>	2018 Apr. 23	09:31-10:48	18.1	144.3 ± 2.7	1

Table ESM.1.: Continued.

ID	Epoch	T (UT)	ν_{obs} (GHz)	σ_{disk} (K)	AR_n
<i>M36</i>	2018 Apr. 23	10:51-12:08	18.1	70.3 ± 1.1	1
<i>M37</i>	2018 Apr. 25	10:45-12:02	18.1	112.9 ± 2.1	1
<i>M38</i>	2018 Apr. 26	09:00-10:17	18.1	122.5 ± 2.9	1
<i>M39</i>	2018 Jun. 10	10:15-11:30	18.1	126.2 ± 3.2	2
<i>M40</i>	2018 Jun. 10	11:32-12:47	26.1	204.1 ± 7.2	1
<i>M41</i>	2018 Jun. 17	08:56-10:10	18.3	90.0 ± 2.6	1
<i>M42</i>	2018 Jun. 17	10:12-11:27	26.1	258.7 ± 5.6	0
<i>M43</i>	2018 Jun. 23	09:00-10:15	18.3	169.6 ± 3.2	3
<i>*M44</i>	2018 Jun. 23	10:17-11:31	26.1	247.7 ± 4.0	4
<i>M45</i>	2018 Aug. 6	10:00-11:15	18.3	131.9 ± 3.3	3
<i>M46</i>	2018 Aug. 6	11:18-12:32	26.1	202.5 ± 4.1	2
<i>M47</i>	2018 Aug. 20	09:50-11:05	18.3	143.5 ± 2.5	3
<i>M48</i>	2018 Aug. 20	11:08-12:22	26.1	251.0 ± 4.7	1
<i>M49</i>	2018 Sep. 21	10:00-11:15	18.3	110.4 ± 3.6	1
<i>M50</i>	2018 Sep. 21	11:18-12:32	26.1	192.3 ± 6.4	0
<i>M51</i>	2018 Sep. 27	10:20-11:35	18.3	115.8 ± 3.8	2
<i>M52</i>	2018 Sep. 27	11:38-12:52	26.1	123.4 ± 3.8	0
<i>M53</i>	2018 Oct. 3	09:30-10:45	18.3	120.3 ± 2.5	2
<i>M54</i>	2018 Oct. 3	10:48-12:02	26.1	179.6 ± 4.3	2
<i>M55</i>	2018 Oct. 11	10:40-11:55	18.3	111.1 ± 3.2	1
<i>*M56</i>	2018 Oct. 11	11:57-13:12	18.3	195.7 ± 6.2	0
<i>M57</i>	2018 Oct. 22	11:35-12:50	18.3	97.8 ± 2.6	2
<i>*M58</i>	2018 Oct. 22	12:52-14:07	26.1	155.0 ± 4.7	0
<i>*M59</i>	2018 Oct. 27	09:50-11:02	18.3	146.3 ± 4.6	0
<i>M60</i>	2018 Oct. 31	09:45-10:59	18.3	98.9 ± 3.1	1
<i>*M61</i>	2018 Oct. 31	11:02-12:16	26.1	190.5 ± 5.5	1
<i>M62</i>	2018 Nov. 9	10:29-11:40	18.3	89.7 ± 2.7	1
<i>*M63</i>	2018 Nov. 9	11:42-12:57	26.1	147.8 ± 4.2	1
<i>M64</i>	2018 Nov. 12	10:07-11:20	18.3	109.5 ± 3.2	2
<i>M65</i>	2018 Nov. 12	11:23-12:37	26.1	177.6 ± 5.9	1
<i>M66</i>	2018 Nov. 26	10:05-11:20	18.3	108.3 ± 3.7	1
<i>*M67</i>	2018 Nov. 26	11:23-12:37	26.1	162.5 ± 4.9	1
<i>M68</i>	2018 Nov. 29	10:05-11:20	18.3	93.4 ± 2.9	1
<i>M69</i>	2018 Nov. 29	11:23-12:37	26.1	127.2 ± 4.1	0
<i>M70</i>	2018 Dec. 6	11:15-12:30	18.3	104.2 ± 3.2	1
<i>*M71</i>	2018 Dec. 6	12:33-13:47	26.1	348.5 ± 13.2	1
<i>S72</i>	2019 May 17	08:40-10:25	25.5	113.0 ± 1.0	1
<i>S73</i>	2019 May 17	10:25-12:10	25.5	101.7 ± 0.9	1
<i>M74</i>	2019 Jun. 12	08:30-09:45	18.3	113.9 ± 2.3	2
<i>*M75</i>	2019 Jun. 12	09:47-11:02	25.8	245.3 ± 6.1	0
<i>M76</i>	2019 Jun. 13	13:15-14:30	18.3	86.1 ± 2.9	2
<i>M77</i>	2019 Jun. 13	14:33-15:47	25.8	158.6 ± 5.1	1

Table ESM.1.: Continued.

ID	Epoch	T (UT)	ν_{obs} (GHz)	σ_{disk} (K)	AR_n
<i>M78</i>	2019 Jun. 20	08:45-10:00	18.3	92.5 ± 3.2	2
<i>M79</i>	2019 Jun. 20	10:03-11:17	25.8	218.8 ± 6.5	0
<i>M80</i>	2019 Jun. 26	08:30-09:45	18.3	78.1 ± 2.9	1
<i>M81</i>	2019 Jun. 26	09:48-11:02	25.8	196.9 ± 6.5	0
<i>M82</i>	2019 Jul. 3	08:30-09:45	18.3	$110. \pm 2.7$	3
<i>*M83</i>	2019 Jul. 3	09:47-11:02	25.8	226.7 ± 5.5	1
<i>M84</i>	2019 Jul. 4	09:05-10:20	18.3	143.1 ± 2.9	3
<i>*M85</i>	2019 Jul. 4	10:22-11:37	25.8	207.6 ± 3.7	2
<i>M86</i>	2019 Jul. 12	09:15-10:30	18.3	97.4 ± 2.2	1
<i>*M87</i>	2019 Jul. 12	10:32-11:47	25.8	184.4 ± 5.4	0
<i>M88</i>	2019 Jul. 19	08:00-09:15	18.3	92.2 ± 2.3	1
<i>*M89</i>	2019 Jul. 19	09:17-10:32	25.8	161.4 ± 4.9	1
<i>M90</i>	2019 Jul. 24	09:35-10:50	18.3	92.1 ± 2.4	2
<i>*M91</i>	2019 Jul. 24	10:52-12:07	25.8	196.7 ± 5.1	0
<i>M92</i>	2019 Jul. 30	08:10-09:25	18.3	126.7 ± 2.7	1
<i>M93</i>	2019 Jul. 30	09:27-10:42	25.8	195.1 ± 5.5	1
<i>M94</i>	2019 Aug. 7	10:00-11:14	18.3	85.4 ± 2.2	2
<i>M95</i>	2019 Aug. 7	11:17-12:31	25.8	248.5 ± 5.0	1
<i>M96</i>	2019 Aug. 13	10:00-11:15	18.3	140.1 ± 4.0	0
<i>M97</i>	2019 Aug. 13	11:17-12:32	25.8	175.3 ± 6.6	0
<i>M98</i>	2019 Aug. 27	09:15-10:30	18.3	110.8 ± 3.5	0
<i>M99</i>	2019 Aug. 27	10:32-11:47	25.8	243.1 ± 8.0	0
<i>M100</i>	2019 Sep. 5	07:30-08:45	18.3	94.1 ± 3.7	1
<i>M101</i>	2019 Sep. 5	08:48-10:02	25.8	160.6 ± 6.0	0
<i>M102</i>	2019 Sep. 10	09:50-11:05	18.3	88.5 ± 2.3	1
<i>M103</i>	2019 Sep. 10	11:08-12:22	25.8	116.6 ± 3.9	0
<i>M104</i>	2019 Sep. 16	09:10-10:25	18.3	101.8 ± 2.7	0
<i>M105</i>	2019 Sep. 16	10:28-11:42	25.8	116.3 ± 3.7	0
<i>M106</i>	2019 Sep. 24	10:55-12:10	18.3	81.0 ± 2.2	1
<i>*M107</i>	2019 Sep. 24	12:13-13:27	25.8	168.1 ± 7.1	0
<i>M108</i>	2019 Oct. 1	09:10-10:25	18.3	89.9 ± 2.7	1
<i>M109</i>	2019 Oct. 1	10:28-11:42	25.8	120.2 ± 4.1	1
<i>M110</i>	2019 Oct. 9	09:10-10:25	18.3	101.6 ± 3.5	3
<i>M111</i>	2019 Oct. 9	10:28-11:42	25.8	112.2 ± 3.9	0
<i>S112</i>	2019 Oct. 9	11:46-13:30	18.8	97.9 ± 1.0	3
<i>S113</i>	2019 Oct. 9	09:14-10:58	24.7	130.1 ± 1.1	1
<i>M114</i>	2019 Oct. 14	12:40-13:55	18.3	84.8 ± 2.6	1
<i>M115</i>	2019 Oct. 14	13:58-15:12	25.8	170.1 ± 5.8	0
<i>M116</i>	2019 Oct. 23	11:50-13:05	18.3	90.2 ± 2.5	1
<i>M117</i>	2019 Oct. 23	13:08-14:22	25.8	123.7 ± 4.7	0
<i>M118</i>	2019 Nov. 4	10:15-11:30	18.3	245.5 ± 9.4	1
<i>*M119</i>	2019 Nov. 4	11:33-12:47	25.8	259.1 ± 8.7	0

Table ESM.1.: Continued.

ID	Epoch	T (UT)	ν_{obs} (GHz)	σ_{disk} (K)	AR_n
<i>M120</i>	2019 Nov. 14	10:25-11:40	18.3	82.4 ± 2.4	2
<i>M121</i>	2019 Nov. 14	11:42-12:57	25.8	136.8 ± 4.3	1
<i>M122</i>	2019 Nov. 21	10:10-11:25	18.3	64.9 ± 1.9	2
<i>*M123</i>	2019 Nov. 21	11:27-12:42	25.8	129.1 ± 4.3	1
<i>M124</i>	2019 Nov. 26	10:00-11:15	18.3	69.4 ± 2.6	1
<i>*M125</i>	2019 Nov. 26	11:17-12:32	25.8	100.8 ± 3.9	0
<i>S126</i>	2020 Jan. 28	09:41-11:25	18.8	162.7 ± 2.8	2
<i>*S127</i>	2020 Jan. 28	11:26-13:18	18.8	252.7 ± 3.8	2
<i>S128</i>	2020 Jan. 28	13:40-15:24	24.7	122.2 ± 1.0	3
<i>M129</i>	2020 Aug. 10	09:10-10:24	18.3	83.6 ± 1.9	3
<i>M130</i>	2020 Aug. 10	10:27-11:42	25.8	167.1 ± 5.5	1
<i>M131</i>	2020 Aug. 17	09:15-10:29	18.3	96.8 ± 2.1	3
<i>M132</i>	2020 Aug. 17	10:32-11:47	25.8	198.0 ± 5.5	2
<i>M133</i>	2020 Aug. 26	09:10-10:24	18.3	97.8 ± 2.9	1
<i>M134</i>	2020 Aug. 26	10:27-11:42	25.8	174.4 ± 5.2	0
<i>M135</i>	2020 Sep. 2	09:15-10:29	18.3	129.2 ± 4.9	1
<i>M136</i>	2020 Sep. 2	10:32-11:47	25.8	202.0 ± 5.4	0
<i>M137</i>	2020 Sep. 6	08:00-09:14	18.3	93.0 ± 3.1	3
<i>M138</i>	2020 Sep. 6	09:17-10:32	25.8	165.9 ± 5.0	0
<i>M139</i>	2020 Sep. 14	10:10-11:24	18.3	86.7 ± 2.1	2
<i>M140</i>	2020 Sep. 14	11:27-12:42	25.8	209.0 ± 6.0	0
<i>S141</i>	2020 Sep. 17	09:18-11:02	18.8	141.1 ± 1.8	3
<i>S142</i>	2020 Sep. 17	11:18-13:02	24.7	108.0 ± 1.1	5
<i>M143</i>	2020 Sep. 29	09:00-10:14	18.3	125.5 ± 3.9	2
<i>M144</i>	2020 Sep. 29	10:17-11:32	25.8	209.5 ± 6.0	2
<i>*M145</i>	2020 Oct. 5	09:40-10:54	18.3	192.2 ± 5.0	0
<i>*M146</i>	2020 Oct. 5	10:57-12:12	25.8	451.5 ± 16.5	0
<i>M147</i>	2020 Oct. 19	08:00-09:14	18.3	78.3 ± 2.9	1
<i>M148</i>	2020 Oct. 19	09:17-10:32	25.8	101.5 ± 3.6	2
<i>S149</i>	2020 Oct. 29	08:32-10:05	24.7	156.3 ± 1.8	4
<i>S150</i>	2020 Oct. 29	10:17-12:01	18.8	133.0 ± 1.6	2
<i>M151</i>	2020 Oct. 30	08:15-09:29	18.3	67.2 ± 1.9	2
<i>M152</i>	2020 Oct. 30	09:32-10:47	25.8	110.7 ± 3.9	3
<i>M153</i>	2020 Nov. 6	09:52-11:07	25.8	111.1 ± 3.8	3
<i>M154</i>	2020 Nov. 6	08:35-09:49	18.3	565.2 ± 19.4	1
<i>M155</i>	2020 Nov. 8	09:22-10:32	25.8	123.7 ± 4.1	2
<i>M156</i>	2020 Nov. 11	10:00-11:14	18.3	84.9 ± 2.8	4
<i>M157</i>	2020 Nov. 11	11:17-12:32	25.8	124.0 ± 4.1	1
<i>M158</i>	2020 Nov. 23	09:15-10:29	18.3	96.3 ± 3.7	4
<i>M159</i>	2020 Nov. 23	12:22-13:37	25.8	184.3 ± 6.4	2
<i>M160</i>	2020 Nov. 28	10:35-11:49	18.3	241.0 ± 10.8	2
<i>M161</i>	2020 Nov. 28	11:52-13:04	25.8	179.4 ± 6.6	1

Table ESM.1.: Continued.

ID	Epoch	T (UT)	ν_{obs} (GHz)	σ_{disk} (K)	AR_n
<i>M162</i>	2020 Nov. 30	09:25-10:39	18.3	161.6 ± 5.3	3
<i>M163</i>	2020 Nov. 30	10:42-11:57	25.8	120.4 ± 6.0	3
<i>M164</i>	2020 Dec. 7	09:15-13:29	18.3	362.2 ± 15.3	2
<i>*M165</i>	2020 Dec. 7	10:32-11:47	25.8	1029.9 ± 63.2	0
<i>M166</i>	2020 Dec. 13	09:15-13:29	18.3	81.8 ± 2.9	4
<i>M167</i>	2020 Dec. 13	10:32-11:47	25.8	105.0 ± 3.9	1
<i>M168</i>	2020 Dec. 21	09:45-10:59	18.3	91.6 ± 3.9	4
<i>M169</i>	2020 Dec. 21	11:02-12:17	25.8	120.2 ± 5.4	2

Table ESM.2.: Analysis results obtained through the automatic procedure of SUNDARA. *ID* is the identification number for each single map, where the letters *M* and *S* specify the radiotelescope (Medicina or SRT); *ar_id* is the AR name (if present), *Epoch* the observation date, ν_{obs} the central observing frequency, *Size* the AR size, at twice the fitted semi-axes level (in units of arcmin²); $T_{\text{p,ex}}$ indicates the peak of the excess brightness temperature T_{ex} for each AR; S_{sub} and S_{tot} indicate the AR flux density of the QS-subtracted image and the original image, respectively. *Notes* indicates further AR flags: “b” indicates if the AR position is located outside of the 95%-level of the solar radius; “k” indicates the distance between 2 different ARs ≤ 2 beams of the receiver; “C” indicates a AR located inside a confused region (see Footnote 4 of the paper); sequential numbers are related to multiple AR detection for the same observing session. AR candidates without known HEK counterpart are labeled as *SD-AR-X12345* (lon, lat), where *SD* indicates SunDish project, *AR* Active Region, *X* the INAF radio telescope (*M* for Medicina, *S* for SRT, *N* for Noto), *12345* the number of AR (sorted by epoch), lon/lat indicate the Helioprojective Longitude/Latitude (in units of arcsec).

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)	Notes
M2	NOAA_12699, SPoCA_21552	2018 Feb. 15	24.1	3.60	545 ± 14	0.13 ± 0.003	5.47 ± 0.14	b1
M1	NOAA_12699, SPoCA_21552	2018 Feb. 15	24.1	-	556 ± 14	0.17 ± 0.004	6.58 ± 0.16	b1
M3	SD-AR_M00001 (-36.2, +334.2)	2018 Feb. 19	24.1	49.50	222 ± 6	0.70 ± 0.017	74.25 ± 1.86	C1
M4	SD-AR_M00001 (-36.2, +334.2)	2018 Feb. 19	24.1	-	< 284.98	< 0.66	< 106.31	1
M5	NOAA_12700, SPoCA_21600	2018 Feb. 27	23.6	39.00	575 ± 14	0.97 ± 0.024	56.68 ± 1.42	C1
M6	NOAA_12700, SPoCA_21600	2018 Feb. 27	23.6	-	607 ± 15	1.75 ± 0.044	112.93 ± 2.82	1
M7	SPoCA_21612	2018 Mar. 7	23.6	51.50	475 ± 12	1.07 ± 0.027	74.55 ± 1.86	1
M8	SPoCA_21612	2018 Mar. 7	23.6	-	< 216.00	< 0.25	< 72.70	1

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Notes
M10	SPoCA_21612	2018 Mar. 9	23.6	49.50	495 ± 12	1.14 ± 0.028	71.79 ± 1.79	C1		
M9	SPoCA_21612	2018 Mar. 9	23.6	-	568 ± 14	1.22 ± 0.030	70.82 ± 1.77	C1		
M14	NOAA_12703, SPoCA_21684	2018 Mar. 30	23.6	3.75	360 ± 9	0.07 ± 0.002	5.41 ± 0.14	b1		
M13	NOAA_12703, SPoCA_21684	2018 Mar. 30	23.6	-	< 314.90	< 0.05	< 5.03	1		
M15	SD-AR_M00002 (-726.9, +16.3)	2018 Apr. 2	23.6	18.62	452 ± 11	0.44 ± 0.011	27.03 ± 0.68	Ck1		
M16	SD-AR_M00002 (-726.9, +16.3)	2018 Apr. 2	23.6	-	534 ± 13	0.41 ± 0.010	14.34 ± 0.36	k1		
M16	NOAA_12703, SPoCA_21684	2018 Apr. 2	23.6	49.00	935 ± 23	1.85 ± 0.046	71.84 ± 1.80	k2		
M15	NOAA_12703, SPoCA_21684	2018 Apr. 2	23.6	-	763 ± 19	2.18 ± 0.054	136.50 ± 3.41	k2		
M17	NOAA_12703, SPoCA_21708	2018 Apr. 6	23.6	21.25	370 ± 9	0.41 ± 0.010	30.74 ± 0.77	Ck1		
M18	NOAA_12703, SPoCA_21708	2018 Apr. 6	23.6	-	< 308.35	< 0.46	< 31.51	1		
M17	SD-AR_M00003 (+33.7, +20.4)	2018 Apr. 6	23.6	47.75	376 ± 9	0.98 ± 0.024	69.18 ± 1.73	Ck2		
M18	SD-AR_M00003 (+33.7, +20.4)	2018 Apr. 6	23.6	-	383 ± 10	1.11 ± 0.028	70.38 ± 1.76	Ck2		
M19	SPoCA_21710	2018 Apr. 7	23.6	17.75	326 ± 8	0.27 ± 0.007	25.61 ± 0.64	Ck1		
M20	SPoCA_21710	2018 Apr. 7	23.6	-	< 340.32	< 0.34	< 27.11	1		
M19	SD-AR_M00004 (+243.1, -51.0)	2018 Apr. 7	23.6	49.25	377 ± 9	0.95 ± 0.024	71.28 ± 1.78	Ck2		
M20	SD-AR_M00004 (+243.1, -51.0)	2018 Apr. 7	23.6	-	< 338.01	< 0.74	< 70.37	2		
M21	SD-AR_M00005 (+496.9, -24.1)	2018 Apr. 12	18.1	19.25	305 ± 8	0.18 ± 0.005	16.80 ± 0.42	Ck1		
M22	SD-AR_M00005 (+496.9, -24.1)	2018 Apr. 12	26.1	-	_b	_b	< 31.29	1		
M21	NOAA_12704, SPoCA_21724	2018 Apr. 12	18.1	6.00	797 ± 20	0.19 ± 0.005	5.37 ± 0.13	bk2		
M22	NOAA_12704, SPoCA_21724	2018 Apr. 12	26.1	-	< 49.93	_b	< 10.16	2		
M21	SD-AR_M00006 (-472.4, +298.1)	2018 Apr. 12	18.1	42.50	349 ± 9	0.52 ± 0.013	37.21 ± 0.93	k3		
M22	SD-AR_M00006 (-472.4, +298.1)	2018 Apr. 12	26.1	-	< 138.96	< 0.13	< 72.92	3		
M24	NOAA_12704, SPoCA_21724	2018 Apr. 13	26.1	14.00	960 ± 24	0.80 ± 0.020	24.94 ± 0.62	bk1		
M26	NOAA_12704, SPoCA_21724	2018 Apr. 13	18.1	-	1325 ± 33	0.67 ± 0.017	18.05 ± 0.45	bk1		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

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^f Same region.

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^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			observations with single-dish INAF radio telescopes	Notes
<i>M25</i>	NOAA_12704, SPoCA_21724	2018 Apr. 13	22.1	-	1552 ± 39	0.76 ± 0.019	19.36 ± 0.48	bk1			
<i>M23</i>	NOAA_12704, SPoCA_21724	2018 Apr. 13	18.1	-	1554 ± 39	0.67 ± 0.017	12.55 ± 0.31	bk1			
<i>M25</i>	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	22.1	42.50	353 ± 9	0.60 ± 0.015	54.21 ± 1.36	Ck2			
<i>M26</i>	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	18.1	-	717 ± 18	0.53 ± 0.013	53.28 ± 1.33	k2			
<i>M24</i>	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	26.1	-	< 296.19	< 0.94	< 73.36	2			
<i>M23</i>	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	18.1	-	< 257.62	< 0.41	< 36.46	2			
<i>M25</i>	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	22.1	27.50	316 ± 8	0.41 ± 0.010	35.08 ± 0.88	Ck3			
<i>M24</i>	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	26.1	-	< 240.29	< 0.23	< 45.44	3			
<i>M26</i>	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	18.1	-	< 177.97	< 0.19	< 33.12	3			
<i>M23</i>	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	18.1	-	< 149.62	< 0.13	< 23.22	3			
<i>M26</i>	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	18.1	30.24	230 ± 6	0.20 ± 0.005	26.30 ± 0.66	Ck4			
<i>M24</i>	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	26.1	-	< 276.03	< 0.35	< 38.23	4			
<i>M25</i>	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	22.1	-	< 267.24	< 0.19	< 26.68	4			
<i>M23</i>	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	18.1	-	< 183.71	< 0.11	< 19.11	4			
<i>M27</i>	NOAA_12704, SPoCA_21724	2018 Apr. 17	18.1	40.25	857 ± 21	0.77 ± 0.019	35.53 ± 0.89	k1			
<i>M28</i>	SD-AR_M00010 (-115.9, -146.2)	2018 Apr. 18	18.1	32.00	376 ± 9	0.33 ± 0.008	27.96 ± 0.70	Ck1			
<i>M29</i>	SD-AR_M00010 (-115.9, -146.2)	2018 Apr. 18	26.1	-	< 326.41	< 1.19	< 110.87	1			
<i>M28</i>	SPoCA_21739	2018 Apr. 18	18.1	28.00	324 ± 8	0.26 ± 0.007	24.44 ± 0.61	Ck2			
<i>M29</i>	SPoCA_21739	2018 Apr. 18	26.1	-	< 367.09	< 0.93	< 93.70	2			
<i>M28</i>	NOAA_12704, SPoCA_21724	2018 Apr. 18	18.1	28.75	603 ± 15	0.50 ± 0.012	25.33 ± 0.63	Ck3			
<i>M29</i>	NOAA_12704, SPoCA_21724	2018 Apr. 18	26.1	-	631 ± 16	1.99 ± 0.050	96.63 ± 2.42	Ck3			
<i>M28</i>	SPoCA_21735	2018 Apr. 18	18.1	12.75	462 ± 12	0.18 ± 0.005	11.19 ± 0.28	k4			
<i>M29</i>	SPoCA_21735	2018 Apr. 18	26.1	-	< 367.09	< 0.33	< 43.36	4			
<i>M28</i>	SPoCA_21741	2018 Apr. 18	18.1	45.00	389 ± 10	0.53 ± 0.013	39.38 ± 0.98	k5			

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^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

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^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)		Notes
M29	SPoCA_21741	2018 Apr. 18	26.1	-	< 402.76	< 2.33	< 152.80	5	
M30	NOAA_12706, SPoCA_21742	2018 Apr. 19	18.1	2.00	589 ± 15	0.04 ± 0.001	1.75 ± 0.04	b1	
M31	NOAA_12706, SPoCA_21742	2018 Apr. 19	26.1	-	_b	_b	< 6.98	1	
M30	NOAA_12704, SPoCA_21724	2018 Apr. 19	18.1	49.75	438 ± 11	0.63 ± 0.016	43.56 ± 1.09	2	
M31	NOAA_12704, SPoCA_21724	2018 Apr. 19	26.1	-	_b	_b	< 159.11	2	
M34	NOAA_12706, SPoCA_21742	2018 Apr. 20	23.6	6.00	2032 ± 51	0.60 ± 0.015	9.08 ± 0.23	b1	
M33	NOAA_12706, SPoCA_21742	2018 Apr. 20	26.1	-	1574 ± 39	0.58 ± 0.014	11.08 ± 0.28	b1	
M32	NOAA_12706, SPoCA_21742	2018 Apr. 20	18.1	-	2584 ± 65	0.58 ± 0.015	5.94 ± 0.15	b1	
M32	NOAA_12704, SPoCA_21724	2018 Apr. 20	18.1	48.25	349 ± 9	0.54 ± 0.014	41.96 ± 1.05	2	
M34	NOAA_12704, SPoCA_21724	2018 Apr. 20	23.6	-	< 242.04	< 0.46	< 69.22	2	
M33	NOAA_12704, SPoCA_21724	2018 Apr. 20	26.1	-	< 318.00	< 0.88	< 83.69	2	
M35	NOAA_12706, SPoCA_21742	2018 Apr. 23	18.1	9.00	2192 ± 55	0.74 ± 0.019	8.52 ± 0.21	1	
M36	NOAA_12706, SPoCA_21742	2018 Apr. 23	18.1	-	1278 ± 32	0.48 ± 0.012	8.04 ± 0.20	1	
M37	NOAA_12706, SPoCA_21742	2018 Apr. 25	18.1	37.50	2301 ± 58	1.85 ± 0.046	34.24 ± 0.86	1	
M38	NOAA_12706, SPoCA_21742	2018 Apr. 26	18.1	30.25	2225 ± 56	1.64 ± 0.041	27.76 ± 0.69	1	
M39	SD-AR_M00011 (+219.3, +34.2)	2018 Jun. 10	18.1	31.00	320 ± 8	0.28 ± 0.007	27.03 ± 0.68	C1	
M40	SD-AR_M00011 (+219.3, +34.2)	2018 Jun. 10	26.1	-	458 ± 11	1.35 ± 0.034	56.11 ± 1.40	1	
M39	SD-AR_M00012 (-464.3, +348.9)	2018 Jun. 10	18.1	47.00	274 ± 7	0.46 ± 0.011	41.01 ± 1.03	2	
M40	SD-AR_M00012 (-464.3, +348.9)	2018 Jun. 10	26.1	-	< 282.72	< 0.69	< 79.88	2	
M41	NOAA_12713, SPoCA_21840	2018 Jun. 17	18.3	37.00	2424 ± 61	2.00 ± 0.050	34.63 ± 0.87	1	
M42	NOAA_12713, SPoCA_21840	2018 Jun. 17	26.1	-	< 2052.46	< 6.76	< 129.31	1	
M43	SPoCA_21867	2018 Jun. 23	18.3	9.50	512 ± 13	0.13 ± 0.003	8.49 ± 0.21	k1	
M44	SPoCA_21867	2018 Jun. 23	26.1	-	563 ± 14	0.43 ± 0.011	15.96 ± 0.40	Ck1	
M44	NOAA_12713, SPoCA_21840	2018 Jun. 23	26.1	2.75	1462 ± 37	0.39 ± 0.010	5.13 ± 0.13	b2	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

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^f Same region.

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^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Solar observations with single-dish INAF radio telescopes	Notes
M43	NOAA_12713, SPoCA_21840	2018 Jun. 23	18.3	-	2477 ± 62	0.41 ± 0.010	2.83 ± 0.07	b2			
M43	NOAA_12715, SPoCA_21859	2018 Jun. 23	18.3	13.00	2011 ± 50	0.72 ± 0.018	12.17 ± 0.30	k3			
M44	NOAA_12715, SPoCA_21859	2018 Jun. 23	26.1	-	2053 ± 51	1.89 ± 0.047	24.75 ± 0.62	Ck3			
M44	HMI.SHARP_7276	2018 Jun. 23	26.1	49.00	651 ± 16	2.17 ± 0.054	86.64 ± 2.17	Ck4			
M43	HMI.SHARP_7276	2018 Jun. 23	18.3	-	< 355.28	< 0.09	< 42.69	4			
M45	NOAA_12717, SPoCA_21941	2018 Aug. 6	18.3	47.75	833 ± 21	0.70 ± 0.018	42.73 ± 1.07	1			
M46	NOAA_12717, SPoCA_21941	2018 Aug. 6	26.1	-	520 ± 13	0.96 ± 0.024	83.17 ± 2.08	C1			
M45	SD-AR_M00013 (-378.2, +38.4)	2018 Aug. 6	18.3	46.50	354 ± 9	0.56 ± 0.014	41.56 ± 1.04	Ck2			
M46	SD-AR_M00013 (-378.2, +38.4)	2018 Aug. 6	26.1	-	< 353.76	< 1.24	< 81.43	2			
M45	SPoCA_21947	2018 Aug. 6	26.1	12.25	472 ± 12	0.48 ± 0.012	21.52 ± 0.54	bk3			
M46	SPoCA_21947	2018 Aug. 6	18.3	-	979 ± 24	0.53 ± 0.013	10.83 ± 0.27	bk3			
M47	NOAA_12718, SPoCA_21976	2018 Aug. 20	18.3	35.00	464 ± 12	0.46 ± 0.012	31.33 ± 0.78	1			
M48	NOAA_12718, SPoCA_21976	2018 Aug. 20	26.1	-	< 500.88	< 0.79	< 61.12	1			
M48	NOAA_12719, SPoCA_21981	2018 Aug. 20	26.1	18.00	1064 ± 27	1.01 ± 0.025	32.04 ± 0.80	2			
M47	NOAA_12719, SPoCA_21981	2018 Aug. 20	18.3	-	1396 ± 35	0.72 ± 0.018	17.04 ± 0.43	2			
M47	SD-AR_M00014 (+332.1, +258.0)	2018 Aug. 20	18.3	50.75	407 ± 10	0.49 ± 0.012	45.11 ± 1.13	C3			
M48	SD-AR_M00014 (+332.1, +258.0)	2018 Aug. 20	26.1	-	< 450.94	< 1.53	< 89.84	3			
M49	SPoCA_22078	2018 Sep. 21	18.3	62.25	288 ± 7	0.39 ± 0.010	55.04 ± 1.38	1			
M50	SPoCA_22078	2018 Sep. 21	26.1	-	< 380.04	< 1.38	< 108.09	1			
M51	SD-AR_M00015 (-506.8, -227.3)	2018 Sep. 27	18.3	48.00	275 ± 7	0.44 ± 0.011	42.75 ± 1.07	1			
M52	SD-AR_M00015 (-506.8, -227.3)	2018 Sep. 27	26.1	-	< 189.90	< 0.44	< 82.21	1			
M51	SD-AR_M00016 (+587.0, +15.0)	2018 Sep. 27	18.3	28.25	249 ± 6	0.20 ± 0.005	25.10 ± 0.63	2			
M52	SD-AR_M00016 (+587.0, +15.0)	2018 Sep. 27	26.1	-	< 184.11	< 0.29	< 50.68	2			
M53	SD-AR_M00017 (-208.5, +68.3)	2018 Oct. 3	18.3	45.25	445 ± 11	0.66 ± 0.016	40.52 ± 1.01	1			

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

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Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)		Notes
<i>M54</i>	SD-AR.M00017 (-208.5, +68.3)	2018 Oct. 3	26.1	-	488 ± 12	1.86 ± 0.046	82.93 ± 2.07	1	
<i>M54</i>	NOAA_12723, SPoCA_22102	2018 Oct. 3	26.1	12.75	679 ± 17	0.48 ± 0.012	22.42 ± 0.56	C2	
<i>M53</i>	NOAA_12723, SPoCA_22102	2018 Oct. 3	18.3	-	871 ± 22	0.35 ± 0.009	11.59 ± 0.29	2	
<i>M55</i>	SPoCA_22124	2018 Oct. 11	18.3	55.50	370 ± 9	0.50 ± 0.012	49.43 ± 1.24	1	
<i>M56</i>	SPoCA_22124	2018 Oct. 11	18.3	-	$_{-b}$	$_{-b}$	< 64.24	1	
<i>M57</i>	SPoCA_22122	2018 Oct. 22	18.3	18.25	365 ± 9	0.26 ± 0.007	16.32 ± 0.41	k1	
<i>M58</i>	SPoCA_22122	2018 Oct. 22	26.1	-	< 114.02	< 0.09	< 32.47	1	
<i>M57</i>	SD-AR.M00018 (+526.1, +4.6)	2018 Oct. 22	18.3	50.50	365 ± 9	0.48 ± 0.012	45.00 ± 1.13	k2	
<i>M58</i>	SD-AR.M00018 (+526.1, +4.6)	2018 Oct. 22	26.1	-	< 219.84	< 0.46	< 86.66	2	
<i>M61</i>	SD-AR.M00019 (+397.4, +154.7)	2018 Oct. 31	26.1	48.25	489 ± 12	1.92 ± 0.048	85.15 ± 2.13	1	
<i>M60</i>	SD-AR.M00019 (+397.4, +154.7)	2018 Oct. 31	18.3	-	394 ± 10	0.58 ± 0.014	43.79 ± 1.09	1	
<i>M63</i>	HMI.SHARP_7321	2018 Nov. 9	18.3	45.50	269 ± 7	0.26 ± 0.006	40.33 ± 1.01	1	
<i>M62</i>	HMI.SHARP_7321	2018 Nov. 9	26.1	-	431 ± 11	1.73 ± 0.043	81.51 ± 2.04	1	
<i>M64</i>	NOAA_12726, SPoCA_22221	2018 Nov. 12	18.3	16.50	348 ± 9	0.20 ± 0.005	14.75 ± 0.37	Ck1	
<i>M65</i>	NOAA_12726, SPoCA_22221	2018 Nov. 12	26.1	-	< 387.86	< 0.68	< 29.14	1	
<i>M64</i>	SPoCA_22205	2018 Nov. 12	18.3	49.00	454 ± 11	0.63 ± 0.016	43.84 ± 1.10	k2	
<i>M65</i>	SPoCA_22205	2018 Nov. 12	26.1	-	399 ± 10	1.59 ± 0.040	86.54 ± 2.16	2	
<i>M67</i>	NOAA_12728, SPoCA_22251	2018 Nov. 26	26.1	44.50	550 ± 14	1.64 ± 0.041	78.40 ± 1.96	1	
<i>M66</i>	NOAA_12728, SPoCA_22251	2018 Nov. 26	18.3	-	633 ± 16	0.85 ± 0.021	44.06 ± 1.10	1	
<i>M68</i>	SD-AR.M00020 (+474.3, +48.7)	2018 Nov. 29	18.3	49.00	328 ± 8	0.52 ± 0.013	43.73 ± 1.09	1	
<i>M69</i>	SD-AR.M00020 (+474.3, +48.7)	2018 Nov. 29	26.1	-	< 248.13	< 0.71	< 86.50	1	
<i>M70</i>	NOAA_12729 ^a	2018 Dec. 6	18.3	18.75	1591 ± 40	0.73 ± 0.018	17.25 ± 0.43	1	
<i>M71</i>	NOAA_12729 ^a	2018 Dec. 6	26.1	-	857 ± 21	1.31 ± 0.033	34.08 ± 0.85	C1	
<i>S72</i>	SPoCA_22691	2019 May 17	25.5	16.75	1248 ± 31	0.89 ± 0.022	29.34 ± 0.73	b1	

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^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Solar observations with single-dish INAF radio telescopes	Notes
<i>S73</i>	SPoCA_22691	2019 May 17	25.5	-	959 ± 24	1.10 ± 0.028	63.65 ± 1.59	b1			
<i>M74</i>	SPoCA_22823	2019 Jun. 12	18.3	45.25	463 ± 12	0.50 ± 0.012	40.34 ± 1.01	1			
<i>M75</i>	SPoCA_22823	2019 Jun. 12	25.8	-	< 394.60	< 0.88	< 110.05	1			
<i>M74</i>	SD-AR_M00021 (+88.3, -12.1)	2019 Jun. 12	18.3	43.50	376 ± 9	0.52 ± 0.013	38.88 ± 0.97	C2			
<i>M75</i>	SD-AR_M00021 (+88.3, -12.1)	2019 Jun. 12	25.8	-	< 376.83	< 2.02	< 108.36	2			
<i>M76</i>	SD-AR_M00022 (-390.6, -32.1)	2019 Jun. 13	18.3	16.75	245 ± 6	0.12 ± 0.003	14.89 ± 0.37	Ck1			
<i>M77</i>	SD-AR_M00022 (-390.6, -32.1)	2019 Jun. 13	25.8	-	< 263.95	< 0.45	< 40.56	1			
<i>M76</i>	SD-AR_M00023 (-27.7, +85.1)	2019 Jun. 13	18.3	10.50	259 ± 6	0.08 ± 0.002	9.34 ± 0.23	Ck2			
<i>M77</i>	SD-AR_M00023 (-27.7, +85.1)	2019 Jun. 13	25.8	-	411 ± 10	0.50 ± 0.012	24.80 ± 0.62	2			
<i>M78</i>	SD-AR_M00024 (+587.5, -133.2)	2019 Jun. 20	18.3	21.25	205 ± 5	0.12 ± 0.003	18.86 ± 0.47	C1			
<i>M79</i>	SD-AR_M00024 (+587.5, -133.2)	2019 Jun. 20	25.8	-	< 35.96	< 0.01	< 35.56	1			
<i>M80</i>	SD-AR_M00025 (+504.9, +103.0)	2019 Jun. 26	18.3	12.00	193 ± 5	0.07 ± 0.002	10.66 ± 0.27	C1			
<i>M81</i>	SD-AR_M00025 (+504.9, +103.0)	2019 Jun. 26	25.8	-	< 230.54	< 0.26	< 19.67	1			
<i>M82</i>	SPoCA_22886	2019 Jul. 3	18.3	40.00	280 ± 7	0.36 ± 0.009	35.58 ± 0.89	Ck1			
<i>M83</i>	SPoCA_22886	2019 Jul. 3	25.8	-	< 565.22	< 2.10	< 67.51	1			
<i>M82</i>	HMI.SHARP_7374	2019 Jul. 3	18.3	31.25	406 ± 10	0.38 ± 0.010	27.89 ± 0.70	Ck2			
<i>M83</i>	HMI.SHARP_7374	2019 Jul. 3	25.8	-	565 ± 14	1.15 ± 0.029	54.70 ± 1.37	Ck2			
<i>M82</i>	SD-AR_M00026 (-568.0, +200.0)	2019 Jul. 3	18.3	20.50	328 ± 8	0.27 ± 0.007	18.35 ± 0.46	3			
<i>M83</i>	SD-AR_M00026 (-568.0, +200.0)	2019 Jul. 3	25.8	-	< 295.63	< 0.39	< 34.13	3			
<i>M84</i>	SD-AR_M00027 (-408.9, +202.9)	2019 Jul. 4	18.3	37.75	347 ± 9	0.41 ± 0.010	33.68 ± 0.84	Ck1			
<i>M85</i>	SD-AR_M00027 (-408.9, +202.9)	2019 Jul. 4	25.8	-	< 418.28	< 1.35	< 64.63	1			
<i>M85</i>	SD-AR_M00028 (+51.1, +80.3)	2019 Jul. 4	25.8	48.75	616 ± 15	2.42 ± 0.061	84.71 ± 2.12	Ck2			
<i>M84</i>	SD-AR_M00028 (+51.1, +80.3)	2019 Jul. 4	18.3	-	414 ± 10	0.66 ± 0.016	44.27 ± 1.11	Ck2			
<i>M85</i>	HMI.SHARP_7374	2019 Jul. 4	25.8	48.75	506 ± 13	1.33 ± 0.033	83.60 ± 2.09	Ck3			

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Notes
M84	HMI.SHARP_7374	2019 Jul. 4	18.3	-	441 ± 11	0.58 ± 0.015	43.53 ± 1.09	Ck3		
M86	NOAA_12744, SPoCA_22925	2019 Jul. 12	18.3	12.75	429 ± 11	0.16 ± 0.004	11.40 ± 0.28	1		
M87	NOAA_12744, SPoCA_22925	2019 Jul. 12	25.8	-	< 297.72	< 0.12	< 21.56	1		
M88	SPoCA_22983	2019 Jul. 19	18.3	48.75	306 ± 8	0.45 ± 0.011	43.42 ± 1.09	C1		
M89	SPoCA_22983	2019 Jul. 19	25.8	-	< 333.08	< 0.91	< 83.57	1		
M89	SD-AR_M00029 (+112.8, +70.0)	2019 Jul. 19	25.8	49.00	392 ± 10	1.36 ± 0.034	84.07 ± 2.10	C2		
M88	SD-AR_M00029 (+112.8, +70.0)	2019 Jul. 19	18.3	-	< 192.69	< 0.28	< 43.91	2		
M90	SD-AR_M00030 (-82.5, +293.6)	2019 Jul. 24	18.3	20.75	227 ± 6	0.13 ± 0.003	18.42 ± 0.46	C1		
M91	SD-AR_M00030 (-82.5, +293.6)	2019 Jul. 24	25.8	-	< 272.11	< 0.47	< 33.81	1		
M90	SPoCA_22998	2019 Jul. 24	18.3	9.50	391 ± 10	0.14 ± 0.003	8.51 ± 0.21	2		
M91	SPoCA_22998	2019 Jul. 24	25.8	-	< 270.05	< 0.09	< 17.29	2		
M92	SD-AR_M00031 (+187.0, +45.2)	2019 Jul. 30	18.3	21.00	355 ± 9	0.22 ± 0.005	18.72 ± 0.47	C1		
M93	SD-AR_M00031 (+187.0, +45.2)	2019 Jul. 30	25.8	-	564 ± 14	0.97 ± 0.024	36.84 ± 0.92	C1		
M94	NOAA_12747, SPoCA_23064	2019 Aug. 7	18.3	28.00	522 ± 13	0.40 ± 0.010	25.09 ± 0.63	k1		
M95	NOAA_12747, SPoCA_23064	2019 Aug. 7	25.8	-	640 ± 16	1.75 ± 0.044	49.02 ± 1.23	C1		
M94	SD-AR_M00032 (-398.6, +333.1)	2019 Aug. 7	18.3	14.00	214 ± 5	0.11 ± 0.003	12.45 ± 0.31	Ck2		
M95	SD-AR_M00032 (-398.6, +333.1)	2019 Aug. 7	25.8	-	< 488.69	< 0.64	< 22.59	2		
M100	SD-AR_M00033 (+178.3, -69.6)	2019 Sep. 5	18.3	26.25	211 ± 5	0.17 ± 0.004	23.32 ± 0.58	C1		
M101	SD-AR_M00033 (+178.3, -69.6)	2019 Sep. 5	25.8	-	< 253.62	< 0.51	< 45.24	1		
M102	SD-AR_M00034 (+371.6, +383.7)	2019 Sep. 10	18.3	51.50	223 ± 6	0.32 ± 0.008	45.65 ± 1.14	C1		
M103	SD-AR_M00034 (+371.6, +383.7)	2019 Sep. 10	25.8	-	< 174.99	< 0.30	< 87.32	1		
M106	SD-AR_M00035 (+175.6, +88.3)	2019 Sep. 24	18.3	22.00	237 ± 6	0.18 ± 0.004	19.58 ± 0.49	C1		
M107	SD-AR_M00035 (+175.6, +88.3)	2019 Sep. 24	25.8	-	< 317.67	< 0.76	< 38.74	1		
M108	SD-AR_M00036 (-456.5, -204.0)	2019 Oct. 1	18.3	34.75	194 ± 5	0.23 ± 0.006	30.86 ± 0.77	1		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)		Solar observations with single-dish INAF radio telescopes	Notes
M109	SD-AR_M00036 (-456.5, -204.0)	2019 Oct. 1	25.8	-	< 172.49	< 0.30	< 57.99	1		
M109	SD-AR_M00037 (+142.6, +86.9)	2019 Oct. 1	25.8	33.75	259 ± 6	0.65 ± 0.016	57.62 ± 1.44	C2		
M108	SD-AR_M00037 (+142.6, +86.9)	2019 Oct. 1	18.3	-	< 126.19	< 0.07	< 30.00	2		
M110	SD-AR_M00038 (-485.1, +63.1)	2019 Oct. 9	18.3	29.50	223 ± 6	0.21 ± 0.005	26.22 ± 0.66	C1		
M111	SD-AR_M00038 (-485.1, +63.1)	2019 Oct. 9	25.8	-	_b	_b	< 41.88	1		
M110	SD-AR_M00039 (+245.3, -293.2)	2019 Oct. 9	18.3	50.50	321 ± 8	0.40 ± 0.010	44.92 ± 1.12	k2		
M111	SD-AR_M00039 (+245.3, -293.2)	2019 Oct. 9	25.8	-	_b	_b	< 70.07	2		
M110	SPoCA_23273	2019 Oct. 9	18.3	26.75	332 ± 8	0.27 ± 0.007	23.86 ± 0.60	k3		
M111	SPoCA_23273	2019 Oct. 9	25.8	-	_b	_b	< 37.78	3		
S112	SD-AR_S00001 (-381.2, -629.1)	2019 Oct. 9	18.8	13.68	332 ± 8	0.09 ± 0.002	12.76 ± 0.32	1		
S113	SD-AR_S00001 (-381.2, -629.1)	2019 Oct. 9	24.7	-	< 378.54	< 0.34	< 15.88	1		
S112	SPoCA_23273	2019 Oct. 9	18.8	45.72	641 ± 16	0.57 ± 0.014	42.99 ± 1.07	2		
S113	SPoCA_23273	2019 Oct. 9	24.7	-	< 388.78	< 0.41	< 50.06	2		
S112	SD-AR_S00002 (-59.9, +798.2) ^f	2019 Oct. 9	18.8	23.40	425 ± 11	0.43 ± 0.011	22.10 ± 0.55	bk3		
S113	SD-AR_S00002 (-59.9, +798.2) ^f	2019 Oct. 9	24.7	-	< 397.77	< 0.37	< 25.99	3		
S113	SD-AR_S00002 (-165.9, +797.0) ^f	2019 Oct. 9	24.7	12.75	398 ± 10	0.31 ± 0.008	20.06 ± 0.50	bk3		
S112	SD-AR_S00002 (-165.9, +797.0) ^f	2019 Oct. 9	18.8	-	< 425.27	< 0.32	< 16.54	3		
M114	SD-AR_M00040 (+195.9, -109.9)	2019 Oct. 14	18.3	48.75	197 ± 5	0.32 ± 0.008	43.32 ± 1.08	1		
M115	SD-AR_M00040 (+195.9, -109.9)	2019 Oct. 14	25.8	-	< 284.64	< 1.47	< 83.34	1		
M116	SD-AR_M00041 (-599.7, -226.6)	2019 Oct. 23	18.3	29.75	251 ± 6	0.23 ± 0.006	26.45 ± 0.66	1		
M117	SD-AR_M00041 (-599.7, -226.6)	2019 Oct. 23	25.8	-	< 48.18	< 0.01	< 48.74	1		
M118	SPoCA_23409	2019 Nov. 4	18.3	43.00	502 ± 13	0.70 ± 0.018	38.62 ± 0.97	1		
M119	SPoCA_23409	2019 Nov. 4	25.8	-	< 142.42	< 0.08	< 70.47	1		
M120	SD-AR_M00042 (+298.5, +25.1)	2019 Nov. 14	18.3	36.00	230 ± 6	0.34 ± 0.008	32.08 ± 0.80	1		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.^c There are two very close ARs in this position. Our algorithm detected a unique AR.^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.^f Same region.^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Notes
M121	SD-AR_M00042 (+298.5, +25.1)	2019 Nov. 14	25.8	-	348 ± 9	1.27 ± 0.032	62.46 ± 1.56	1		
M120	NOAA_12752, SPoCA_23461	2019 Nov. 14	18.3	10.00	625 ± 16	0.19 ± 0.005	8.98 ± 0.22	b2		
M121	NOAA_12752, SPoCA_23461	2019 Nov. 14	25.8	-	< 98.87	< 0.01	< 17.64	2		
M122	SPoCA_23479	2019 Nov. 21	18.3	31.25	184 ± 5	0.21 ± 0.005	27.76 ± 0.69	1		
M123	SPoCA_23479	2019 Nov. 21	25.8	-	< 120.47	< 0.08	< 53.37	1		
M122	SD-AR_M00043 (+201.2, -376.0)	2019 Nov. 21	18.3	19.25	139 ± 3	0.09 ± 0.002	17.07 ± 0.43	2		
M123	SD-AR_M00043 (+201.2, -376.0)	2019 Nov. 21	25.8	-	< 154.36	< 0.22	< 32.70	2		
M123	SD-AR_M00044 (+83.6, +73.3)	2019 Nov. 21	25.8	48.75	292 ± 7	1.36 ± 0.034	83.66 ± 2.09	3		
M122	SD-AR_M00044 (+83.6, +73.3)	2019 Nov. 21	18.3	-	< 112.39	< 0.14	< 44.21	3		
M124	SD-AR_M00045 (-404.2, +203.9)	2019 Nov. 26	18.3	20.52	163 ± 4	0.13 ± 0.003	18.23 ± 0.46	1		
M125	SD-AR_M00045 (-404.2, +203.9)	2019 Nov. 26	25.8	-	< 179.34	< 0.23	< 22.59	1		
S128	SPoCA_23783	2020 Jan. 28	24.7	13.00	1574 ± 39	0.80 ± 0.020	21.00 ± 0.52	1		
S127	SPoCA_23783	2020 Jan. 28	18.8	-	2222 ± 56	0.66 ± 0.016	12.94 ± 0.32	1		
S126	SPoCA_23783	2020 Jan. 28	18.8	-	2373 ± 59	1.41 ± 0.035	32.29 ± 0.81	1		
S128	NOAA_12757, SPoCA_23779	2020 Jan. 28	24.7	7.75	1992 ± 50	0.52 ± 0.013	12.56 ± 0.31	2		
S127	NOAA_12757, SPoCA_23779	2020 Jan. 28	18.8	-	2390 ± 60	0.48 ± 0.012	7.44 ± 0.19	2		
S126	NOAA_12757, SPoCA_23779	2020 Jan. 28	18.8	-	2358 ± 59	0.66 ± 0.017	20.85 ± 0.52	2		
S128	SPoCA_23787	2020 Jan. 28	24.7	4.00	439 ± 11	0.14 ± 0.003	6.35 ± 0.16	b3		
S126	SPoCA_23787	2020 Jan. 28	18.8	-	< 265.69	< 0.11	< 10.16	3		
S127	SPoCA_23787	2020 Jan. 28	18.8	-	< 592.34	< 0.08	< 3.54	3		
M129	NOAA_12770, SPoCA_24500	2020 Aug. 10	18.3	25.20	1303 ± 33	0.70 ± 0.017	22.92 ± 0.57	k1		
M130	NOAA_12770, SPoCA_24500	2020 Aug. 10	25.8	-	958 ± 24	1.17 ± 0.029	46.13 ± 1.15	k1		
M129	NOAA_12769, SPoCA_24497	2020 Aug. 10	18.3	48.24	699 ± 17	0.87 ± 0.022	43.27 ± 1.08	k2		
M130	NOAA_12769, SPoCA_24497	2020 Aug. 10	25.8	-	< 368.60	< 0.86	< 84.20	2		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Solar observations with single-dish INAF radio telescopes	Notes
M129	SD-AR_M00046 (-594.6, -380.8)	2020 Aug. 10	18.3	20.52	255 ± 6	0.21 ± 0.005	18.27 ± 0.46	3			
M130	SD-AR_M00046 (-594.6, -380.8)	2020 Aug. 10	25.8	-	< 191.44	< 0.19	< 35.32	3			
M132	SPoCA_24514	2020 Aug. 17	25.8	7.56	404 ± 10	0.22 ± 0.006	12.98 ± 0.32	k1			
M131	SPoCA_24514	2020 Aug. 17	18.3	-	526 ± 13	0.16 ± 0.004	6.19 ± 0.15	k1			
M131	SPoCA_24533	2020 Aug. 17	18.3	52.20	335 ± 8	0.54 ± 0.014	46.58 ± 1.16	Ck2			
M132	SPoCA_24533	2020 Aug. 17	25.8	-	< 262.36	< 0.63	< 89.83	2			
M131	NOAA_12772, SPoCA_24530	2020 Aug. 17	18.3	27.36	555 ± 14	0.36 ± 0.009	24.48 ± 0.61	3			
M132	NOAA_12772, SPoCA_24530	2020 Aug. 17	25.8	-	534 ± 13	0.87 ± 0.022	47.65 ± 1.19	C3			
M133	SD-AR_M00047 (+89.5, -321.3)	2020 Aug. 26	18.3	27.00	237 ± 6	0.19 ± 0.005	24.00 ± 0.60	1			
M134	SD-AR_M00047 (+89.5, -321.3)	2020 Aug. 26	25.8	-	< 344.77	< 0.75	< 46.32	1			
M135	HMI_SHARP_7443	2020 Sep. 2	18.3	27.72	398 ± 10	0.24 ± 0.006	24.60 ± 0.62	1			
M136	HMI_SHARP_7443	2020 Sep. 2	25.8	-	< 405.03	< 0.62	< 48.53	1			
M137	SD-AR_M00048 (+248.3, -73.5)	2020 Sep. 6	18.3	16.92	231 ± 6	0.15 ± 0.004	15.08 ± 0.38	C1			
M138	SD-AR_M00048 (+248.3, -73.5)	2020 Sep. 6	25.8	-	< 271.62	< 0.40	< 30.79	1			
M137	SD-AR_M00049 (-464.4, +391.4)	2020 Sep. 6	18.3	24.12	207 ± 5	0.17 ± 0.004	21.42 ± 0.54	2			
M138	SD-AR_M00049 (-464.4, +391.4)	2020 Sep. 6	25.8	-	< 216.76	< 0.42	< 41.12	2			
M137	SPoCA_24604	2020 Sep. 6	18.3	23.04	288 ± 7	0.17 ± 0.004	20.44 ± 0.51	3			
M138	SPoCA_24604	2020 Sep. 6	25.8	-	< 278.27	< 0.37	< 39.74	3			
M139	SD-AR_M00050 (-472.0, -411.1)	2020 Sep. 14	18.3	7.92	198 ± 5	0.06 ± 0.001	7.04 ± 0.18	1			
M140	SD-AR_M00050 (-472.0, -411.1)	2020 Sep. 14	25.8	-	_b	_b	< 14.82	1			
M139	SPoCA_24651	2020 Sep. 14	18.3	16.20	319 ± 8	0.17 ± 0.004	14.45 ± 0.36	2			
M140	SPoCA_24651	2020 Sep. 14	25.8	-	< 101.64	< 0.06	< 27.72	2			
S141	SD-AR_S00003 (-109.6, -862.2)	2020 Sep. 17	18.8	11.88	445 ± 11	0.18 ± 0.004	11.15 ± 0.28	bk1			
S142	SD-AR_S00003 (-109.6, -862.2)	2020 Sep. 17	24.7	-	< 273.00	< 0.17	< 19.17	1			

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^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Notes
<i>S142</i>	SD-AR.S00004 (-195.9, -503.2)	2020 Sep. 17	24.7	10.08	333 ± 8	0.18 ± 0.005	15.84 ± 0.40	Ck2		
<i>S141</i>	SD-AR.S00004 (-195.9, -503.2)	2020 Sep. 17	18.8	-	448 ± 11	0.15 ± 0.004	10.17 ± 0.25	Ck2		
<i>S141</i>	SD-AR.S00005 (-8.7, +828.8)	2020 Sep. 17	18.8	19.44	549 ± 14	0.31 ± 0.008	18.31 ± 0.46	b3		
<i>S142</i>	SD-AR.S00005 (-8.7, +828.8)	2020 Sep. 17	24.7	-	457 ± 11	0.59 ± 0.015	30.69 ± 0.77	b3		
<i>S142</i>	SD-AR.S00006 (-546.4, -503.5)	2020 Sep. 17	24.7	15.84	410 ± 10	0.35 ± 0.009	24.95 ± 0.62	k4		
<i>S141</i>	SD-AR.S00006 (-546.4, -503.5)	2020 Sep. 17	18.8	-	< 333.85	< 0.19	< 14.89	4		
<i>S142</i>	SD-AR.S00007 (-193.6, -342.2)	2020 Sep. 17	24.7	10.80	334 ± 8	0.20 ± 0.005	16.97 ± 0.42	Ck5		
<i>S141</i>	SD-AR.S00007 (-193.6, -342.2)	2020 Sep. 17	18.8	-	< 251.94	< 0.10	< 10.45	5		
<i>S142</i>	SD-AR.S00008 (-712.7, +358.8)	2020 Sep. 17	24.7	10.08	390 ± 10	0.22 ± 0.006	15.88 ± 0.40	bk6		
<i>S141</i>	SD-AR.S00008 (-712.7, +358.8)	2020 Sep. 17	18.8	-	< 301.01	< 0.12	< 10.13	6		
<i>M143</i>	SPoCA.24702	2020 Sep. 29	18.3	57.96	568 ± 14	0.66 ± 0.016	51.74 ± 1.29	1		
<i>M144</i>	SPoCA.24702	2020 Sep. 29	25.8	-	590 ± 15	1.38 ± 0.035	99.01 ± 2.48	C1		
<i>M144</i>	NOAA.12773, SPoCA.24694	2020 Sep. 29	25.8	54.00	1009 ± 25	2.86 ± 0.071	94.01 ± 2.35	2		
<i>M143</i>	NOAA.12773, SPoCA.24694	2020 Sep. 29	18.3	-	1608 ± 40	1.67 ± 0.042	49.28 ± 1.23	2		
<i>M147</i>	NOAA.12776, SPoCA.24743	2020 Oct. 19	18.3	25.20	1474 ± 37	1.00 ± 0.025	23.22 ± 0.58	k1		
<i>M148</i>	NOAA.12776, SPoCA.24743	2020 Oct. 19	25.8	-	811 ± 20	1.11 ± 0.028	43.00 ± 1.08	k1		
<i>M148</i>	SD-AR.M00051 (+106.5, +10.3)	2020 Oct. 19	25.8	71.28	340 ± 8	1.34 ± 0.034	121.64 ± 3.04	Ck2		
<i>M147</i>	SD-AR.M00051 (+106.5, +10.3)	2020 Oct. 19	18.3	-	< 152.61	< 0.21	< 62.05	2		
<i>S150</i>	SPoCA.24770, SPoCA.24772 ^c	2020 Oct. 29	18.8	34.79	7657 ± 191	4.17 ± 0.104	37.46 ± 0.94	1		
<i>S149</i>	SPoCA.24770, SPoCA.24772 ^c	2020 Oct. 29	24.7	-	4442 ± 111	3.82 ± 0.096	56.63 ± 1.42	1		
<i>S149</i>	SPoCA.24760	2020 Oct. 29	24.7	6.37	1245 ± 31	0.45 ± 0.011	10.31 ± 0.26	b2		
<i>S150</i>	SPoCA.24760	2020 Oct. 29	18.8	-	1441 ± 36	0.38 ± 0.010	6.30 ± 0.16	b2		
<i>M152</i>	NOAA.12778, SPoCA.24770	2020 Oct. 30	25.8	13.68	1105 ± 28	0.85 ± 0.021	23.56 ± 0.59	b1		
<i>M151</i>	NOAA.12778, SPoCA.24770	2020 Oct. 30	18.3	-	2972 ± 74	1.40 ± 0.035	12.48 ± 0.31	b1		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA.22276, SPoCA.22279, and SPoCA.22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA.24850, SPoCA.24851, and SPoCA.24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA.12793/SPoCA.24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA.12792/SPoCA.24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Solar observations with single-dish INAF radio telescopes	Notes
M151	SD-AR.M00052 (-21.8, +487.4)	2020 Oct. 30	18.3	32.04	211 ± 5	0.23 ± 0.006	28.49 ± 0.71	C2			
M152	SD-AR.M00052 (-21.8, +487.4)	2020 Oct. 30	25.8	-	245 ± 6	0.54 ± 0.014	52.78 ± 1.32	C2			
M152	SD-AR.M00053 (-87.9, -192.3)	2020 Oct. 30	25.8	52.92	233 ± 6	0.69 ± 0.017	90.00 ± 2.25	C3			
M151	SD-AR.M00053 (-87.9, -192.3)	2020 Oct. 30	18.3	-	< 113.98	< 0.12	< 46.42	3			
M153	NOAA.12781, SPoCA.24790	2020 Nov. 6	25.8	21.96	4378 ± 109	4.50 ± 0.113	41.57 ± 1.04	k1			
M154	NOAA.12781, SPoCA.24790	2020 Nov. 6	18.3	-	9073 ± 227	6.31 ± 0.158	26.00 ± 0.65	k1			
M153	NOAA.12780, SPoCA.24778	2020 Nov. 6	25.8	69.48	627 ± 16	1.92 ± 0.048	119.14 ± 2.98	k2			
M154	NOAA.12780, SPoCA.24778	2020 Nov. 6	18.3	-	< 884.13	< 0.77	< 61.97	2			
M153	SPoCA.24797	2020 Nov. 6	25.8	29.52	421 ± 11	0.95 ± 0.024	50.78 ± 1.27	Ck3			
M154	SPoCA.24797	2020 Nov. 6	18.3	-	< 588.80	< 0.53	< 27.15	3			
M155	NOAA.12781, SPoCA.24790	2020 Nov. 8	25.8	33.48	2303 ± 58	3.42 ± 0.085	59.93 ± 1.50	1			
M155	NOAA.12780, SPoCA.24778	2020 Nov. 8	25.8	71.64	714 ± 18	2.89 ± 0.072	123.82 ± 3.10	2			
M157	NOAA.12781, SPoCA.24790	2020 Nov. 11	25.8	32.04	1812 ± 45	2.68 ± 0.067	56.71 ± 1.42	k1			
M156	NOAA.12781, SPoCA.24790	2020 Nov. 11	18.3	-	3440 ± 86	2.65 ± 0.066	29.95 ± 0.75	k1			
M156	NOAA.12782, SPoCA.24807	2020 Nov. 11	18.3	4.68	443 ± 11	0.03 ± 0.001	4.10 ± 0.10	b2			
M157	NOAA.12782, SPoCA.24807	2020 Nov. 11	25.8	-	_b	_b	< 6.79	2			
M156	SD-AR.M00054 (+24.6, -404.7)	2020 Nov. 11	18.3	28.44	268 ± 7	0.30 ± 0.007	25.38 ± 0.63	Ck3			
M157	SD-AR.M00054 (+24.6, -404.7)	2020 Nov. 11	25.8	-	< 209.03	< 0.75	< 48.76	3			
M156	NOAA.12780, SPoCA.24778	2020 Nov. 11	18.3	10.44	479 ± 12	0.17 ± 0.004	9.36 ± 0.23	b4			
M157	NOAA.12780, SPoCA.24778	2020 Nov. 11	25.8	-	< 154.88	< 0.11	< 18.76	4			
M158	NOAA.12783, SPoCA.24812	2020 Nov. 23	18.3	31.68	2353 ± 59	1.67 ± 0.042	29.61 ± 0.74	k1			
M159	NOAA.12783, SPoCA.24812	2020 Nov. 23	25.8	-	921 ± 23	1.85 ± 0.046	57.16 ± 1.43	k1			
M158	NOAA.12784, SPoCA.24823	2020 Nov. 23	18.3	41.04	907 ± 23	0.84 ± 0.021	37.03 ± 0.93	2			
M159	NOAA.12784, SPoCA.24823	2020 Nov. 23	25.8	-	416 ± 10	1.05 ± 0.026	70.27 ± 1.76	C2			

^a This AR corresponds also to other 3 SPoCA targets: SPoCA.22276, SPoCA.22279, and SPoCA.22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA.24850, SPoCA.24851, and SPoCA.24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA.12793/SPoCA.24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA.12792/SPoCA.24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Notes
M158	SPoCA_24821	2020 Nov. 23	18.3	52.20	2126 ± 53	1.75 ± 0.044	47.78 ± 1.19	k3		
M159	SPoCA_24821	2020 Nov. 23	25.8	-	< 920.83	< 2.65	< 92.57	3		
M158	NOAA_12786, SPoCA_24827	2020 Nov. 23	18.3	8.28	2097 ± 52	0.57 ± 0.014	7.69 ± 0.19	4		
M159	NOAA_12786, SPoCA_24827	2020 Nov. 23	25.8	-	_b	_b	< 9.37	4		
M160	SPoCA_24827, SPoCA_24840 ^c	2020 Nov. 28	18.3	63.36	4877 ± 122	7.53 ± 0.188	63.31 ± 1.58	1		
M161	SPoCA_24827, SPoCA_24840 ^c	2020 Nov. 28	25.8	-	2319 ± 58	7.25 ± 0.181	112.81 ± 2.82	1		
M160	NOAA_12783, SPoCA_24812	2020 Nov. 28	18.3	5.76	774 ± 19	0.16 ± 0.004	5.24 ± 0.13	b2		
M161	NOAA_12783, SPoCA_24812	2020 Nov. 28	25.8	-	< 127.84	< 0.03	< 8.40	2		
M163	NOAA_12789, SPoCA_24834	2020 Nov. 30	25.8	22.32	646 ± 16	0.83 ± 0.021	38.40 ± 0.96	k1		
M162	NOAA_12789, SPoCA_24834	2020 Nov. 30	18.3	-	1494 ± 37	1.03 ± 0.026	20.08 ± 0.50	k1		
M163	SPoCA_24827 ^d	2020 Nov. 30	25.8	67.68	1544 ± 39	5.83 ± 0.146	119.83 ± 3.00	k2		
M162	SPoCA_24827 ^d	2020 Nov. 30	18.3	-	3143 ± 79	6.58 ± 0.164	67.15 ± 1.68	k2		
M163	NOAA_12787, SPoCA_24849	2020 Nov. 30	25.8	13.68	289 ± 7	0.30 ± 0.007	23.38 ± 0.58	3		
M162	NOAA_12787, SPoCA_24849	2020 Nov. 30	18.3	-	394 ± 10	0.21 ± 0.005	12.26 ± 0.31	C3		
M164	NOAA_12790, SPoCA_24848 ^e	2020 Dec. 7	18.3	65.16	1546 ± 39	1.66 ± 0.042	58.78 ± 1.47	k1		
M165	NOAA_12790, SPoCA_24848 ^e	2020 Dec. 7	25.8	-	< 1246.09	< 2.72	< 111.93	1		
M164	NOAA_12791, SPoCA_24870 ^e	2020 Dec. 7	18.3	41.76	2166 ± 54	2.06 ± 0.051	38.84 ± 0.97	k2		
M165	NOAA_12791, SPoCA_24870 ^e	2020 Dec. 7	25.8	-	< 463.71	< 0.34	< 66.32	2		
M166	NOAA_12792, SPoCA_24918	2020 Dec. 13	18.3	10.08	894 ± 22	0.21 ± 0.005	9.02 ± 0.23	bk1		
M167	NOAA_12792, SPoCA_24918	2020 Dec. 13	25.8	-	_b	_b	< 15.86	1		
M166	SPoCA_24905	2020 Dec. 13	18.3	21.24	287 ± 7	0.19 ± 0.005	18.87 ± 0.47	Ck2		
M167	SPoCA_24905	2020 Dec. 13	25.8	-	< 183.67	< 0.17	< 35.22	2		
M166	SD-AR_M00055 (+183.2, -545.2)	2020 Dec. 13	18.3	31.68	246 ± 6	0.26 ± 0.007	28.16 ± 0.70	Ck3		
M167	SD-AR_M00055 (+183.2, -545.2)	2020 Dec. 13	25.8	-	< 130.66	< 0.17	< 52.78	3		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.2.: Continued.

ID	<i>ar_id</i>	Epoch	ν_{obs} (GHz)	Size (arcmin ²)	$T_{\text{p,ex}}$ (K)	S_{sub} (sfu)	S_{tot} (sfu)			Solar observations with single-dish INAF radio telescopes	Notes
<i>M167</i>	NOAA_12791, SPoCA_24917	2020 Dec. 13	25.8	6.12	217 ± 5	0.12 ± 0.003	10.45 ± 0.26		k4		
<i>M166</i>	NOAA_12791, SPoCA_24917	2020 Dec. 13	18.3	-	292 ± 7	0.09 ± 0.002	5.81 ± 0.15		k4		
<i>M169</i>	NOAA_12792, SPoCA_24918 ^g	2020 Dec. 21	25.8	24.12	604 ± 15	0.92 ± 0.023	41.60 ± 1.04		k1		
<i>M168</i>	NOAA_12792, SPoCA_24918 ^g	2020 Dec. 21	18.3	-	1201 ± 30	0.98 ± 0.024	21.93 ± 0.55		k1		
<i>M168</i>	NOAA_12793, SPoCA_24935 ^h	2020 Dec. 21	18.3	70.92	1201 ± 30	1.89 ± 0.047	64.43 ± 1.61		k2		
<i>M169</i>	NOAA_12793, SPoCA_24935 ^h	2020 Dec. 21	25.8	-	604 ± 15	2.33 ± 0.058	123.80 ± 3.09		k2		
<i>M168</i>	NOAA_12794, SPoCA_24943	2020 Dec. 21	18.3	9.72	301 ± 8	0.09 ± 0.002	8.64 ± 0.22		b3		
<i>M169</i>	NOAA_12794, SPoCA_24943	2020 Dec. 21	25.8	-	< 223.45	< 0.07	< 15.99		3		
<i>M168</i>	SPoCA_24945	2020 Dec. 21	18.3	64.08	360 ± 9	0.58 ± 0.015	57.09 ± 1.43		Ck4		
<i>M169</i>	SPoCA_24945	2020 Dec. 21	25.8	-	< 308.51	< 1.13	< 109.28		4		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Spectral indices obtained through the automatic procedure of SUNDARA. α_{T_p} , $\alpha_{T_{ex}}$, and α_{tot} indicate the spectral indices referred to $T_{p,tot}$, T_{ex} , and S_{tot} , respectively. Sequential numbers in the column “ n ” are related to multiple AR detection for the same observing session. See the caption of Table ESM.2 for a full description of the other parameters.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{ex}}$	α_{tot}		n
M21	SD-AR_M00005 (+496.9, -24.1)	2018 Apr. 12	10:20-11:22	18.1	19.25	< 1.79	— ^b	< 1.70	1	
M22	SD-AR_M00005 (+496.9, -24.1)	2018 Apr. 12	11:24-12:26	26.1	—	—	—	—	1	
M21	NOAA_12704, SPoCA_21724	2018 Apr. 12	10:20-11:22	18.1	6.00	< 1.70	< -5.57	< 1.74	2	
M22	NOAA_12704, SPoCA_21724	2018 Apr. 12	11:24-12:26	26.1	—	—	—	—	2	
M21	SD-AR_M00006 (-472.4, +298.1)	2018 Apr. 12	10:20-11:22	18.1	42.50	< 1.84	< -0.52	< 1.84	3	
M22	SD-AR_M00006 (-472.4, +298.1)	2018 Apr. 12	11:24-12:26	26.1	—	—	—	—	3	
M23	NOAA_12704, SPoCA_21724	2018 Apr. 13	07:30-08:39	18.1	14.00	1.76 ± 0.10	0.68 ± 0.10	1.88 ± 0.10	1	
M24	NOAA_12704, SPoCA_21724	2018 Apr. 13	08:40-09:47	26.1	—	—	—	—	1	
M23	NOAA_12704, SPoCA_21724	2018 Apr. 13	07:30-08:39	18.1	14.00	1.91 ± 0.18	1.99 ± 0.18	2.17 ± 0.18	1	
M25	NOAA_12704, SPoCA_21724	2018 Apr. 13	10:00-11:09	22.1	—	—	—	—	1	
M24	NOAA_12704, SPoCA_21724	2018 Apr. 13	08:40-09:47	26.1	14.00	1.57 ± 0.22	-0.89 ± 0.21	1.52 ± 0.21	1	
M25	NOAA_12704, SPoCA_21724	2018 Apr. 13	10:00-11:09	22.1	—	—	—	—	1	
M24	NOAA_12704, SPoCA_21724	2018 Apr. 13	08:40-09:47	26.1	14.00	1.81 ± 0.10	1.12 ± 0.10	0.88 ± 0.10	1	
M26	NOAA_12704, SPoCA_21724	2018 Apr. 13	11:11-12:20	18.1	—	—	—	—	1	
M25	NOAA_12704, SPoCA_21724	2018 Apr. 13	10:00-11:09	22.1	14.00	2.01 ± 0.18	2.79 ± 0.18	0.35 ± 0.18	1	
M26	NOAA_12704, SPoCA_21724	2018 Apr. 13	11:11-12:20	18.1	—	—	—	—	1	
M25	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	10:00-11:09	22.1	42.50	1.73 ± 0.18	-1.55 ± 0.18	0.09 ± 0.18	2	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		Solar observations with single-dish INAF radio telescopes	n
M26	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	11:11-12:20	18.1	-	-	-	-	2		
M25	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	10:00-11:09	22.1	42.50	> 1.95	> 3.58	> 1.99	2		
M23	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	07:30-08:39	18.1	-	-	-	-	2		
M25	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	10:00-11:09	22.1	42.50	< 1.85	< 0.95	< 1.82	2		
M24	SD-AR_M00007 (-516.4, +13.2)	2018 Apr. 13	08:40-09:47	26.1	-	-	-	-	2		
M25	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	10:00-11:09	22.1	27.50	> 1.98	> 5.74	> 2.07	3		
M23	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	07:30-08:39	18.1	-	-	-	-	3		
M25	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	10:00-11:09	22.1	27.50	> 1.97	> 4.87	> 0.29	3		
M26	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	11:11-12:20	18.1	-	-	-	-	3		
M25	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	10:00-11:09	22.1	27.50	< 1.84	< 0.36	< 1.56	3		
M24	SD-AR_M00008 (+227.4, -108.1)	2018 Apr. 13	08:40-09:47	26.1	-	-	-	-	3		
M26	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	11:11-12:20	18.1	30.24	< 1.92	< 2.76	< 0.07	4		
M25	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	10:00-11:09	22.1	-	-	-	-	4		
M26	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	11:11-12:20	18.1	30.24	< 1.91	< 2.50	< 1.02	4		
M24	SD-AR_M00009 (+501.8, +176.8)	2018 Apr. 13	08:40-09:47	26.1	-	-	-	-	4		
M28	SD-AR_M00010 (-115.9, -146.2)	2018 Apr. 18	11:20-12:29	18.1	32.00	< 1.88	< 1.61	< 3.76	1		
M29	SD-AR_M00010 (-115.9, -146.2)	2018 Apr. 18	12:31-13:40	26.1	-	-	-	-	1		
M28	SPoCA_21739	2018 Apr. 18	11:20-12:29	18.1	28.00	< 1.91	< 2.34	< 3.67	2		
M29	SPoCA_21739	2018 Apr. 18	12:31-13:40	26.1	-	-	-	-	2		
M28	NOAA_12704, SPoCA_21724	2018 Apr. 18	11:20-12:29	18.1	28.75	1.90 ± 0.10	2.13 ± 0.10	3.66 ± 0.10	3		
M29	NOAA_12704, SPoCA_21724	2018 Apr. 18	12:31-13:40	26.1	-	-	-	-	3		
M28	SPoCA_21735	2018 Apr. 18	11:20-12:29	18.1	12.75	< 1.87	< 1.37	< 3.70	4		
M29	SPoCA_21735	2018 Apr. 18	12:31-13:40	26.1	-	-	-	-	4		
M28	SPoCA_21741	2018 Apr. 18	11:20-12:29	18.1	45.00	< 1.90	< 2.09	< 3.70	5		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		n
M29	SPoCA_21741	2018 Apr. 18	12:31-13:40	26.1	-	—	—	—	5	
M30	NOAA_12706, SPoCA_21742	2018 Apr. 19	09:40-10:43	18.1	2.00	< 1.65	— ^b	< 3.77	1	
M31	NOAA_12706, SPoCA_21742	2018 Apr. 19	10:45-11:48	26.1	-	—	—	—	1	
M30	NOAA_12704, SPoCA_21724	2018 Apr. 19	09:40-10:43	18.1	49.75	< 1.77	— ^b	< 3.54	2	
M31	NOAA_12704, SPoCA_21724	2018 Apr. 19	10:45-11:48	26.1	-	—	—	—	2	
M32	NOAA_12706, SPoCA_21742	2018 Apr. 20	07:40-08:58	18.1	6.00	1.68 ± 0.10	0.65 ± 0.10	1.70 ± 0.10	1	
M33	NOAA_12706, SPoCA_21742	2018 Apr. 20	09:25-10:39	26.1	-	—	—	—	1	
M32	NOAA_12706, SPoCA_21742	2018 Apr. 20	07:40-08:58	18.1	6.00	1.75 ± 0.13	1.09 ± 0.13	1.60 ± 0.13	1	
M34	NOAA_12706, SPoCA_21742	2018 Apr. 20	10:45-12:03	23.6	-	—	—	—	1	
M33	NOAA_12706, SPoCA_21742	2018 Apr. 20	09:25-10:39	26.1	6.00	1.50 ± 0.36	−0.53 ± 0.35	1.98 ± 0.35	1	
M34	NOAA_12706, SPoCA_21742	2018 Apr. 20	10:45-12:03	23.6	-	—	—	—	1	
M32	NOAA_12704, SPoCA_21724	2018 Apr. 20	07:40-08:58	18.1	48.25	< 1.89	< 1.75	< 1.89	2	
M33	NOAA_12704, SPoCA_21724	2018 Apr. 20	09:25-10:39	26.1	-	—	—	—	2	
M32	NOAA_12704, SPoCA_21724	2018 Apr. 20	07:40-08:58	18.1	48.25	< 1.86	< 0.62	< 1.89	2	
M34	NOAA_12704, SPoCA_21724	2018 Apr. 20	10:45-12:03	23.6	-	—	—	—	2	
M39	SD-AR_M00011 (+219.3, +34.2)	2018 Jun. 10	10:15-11:30	18.1	31.00	1.93 ± 0.10	2.99 ± 0.10	2.00 ± 0.10	1	
M40	SD-AR_M00011 (+219.3, +34.2)	2018 Jun. 10	11:32-12:47	26.1	-	—	—	—	1	
M39	SD-AR_M00012 (-464.3, +348.9)	2018 Jun. 10	10:15-11:30	18.1	47.00	< 1.90	< 2.09	< 1.82	2	
M40	SD-AR_M00012 (-464.3, +348.9)	2018 Jun. 10	11:32-12:47	26.1	-	—	—	—	2	
M41	NOAA_12713, SPoCA_21840	2018 Jun. 17	08:56-10:10	18.3	37.00	< 1.82	< 1.53	< 3.71	1	
M42	NOAA_12713, SPoCA_21840	2018 Jun. 17	10:12-11:27	26.1	-	—	—	—	1	
M43	SPoCA_21867	2018 Jun. 23	09:00-10:15	18.3	9.50	1.91 ± 0.10	2.27 ± 0.10	1.78 ± 0.10	1	
M44	SPoCA_21867	2018 Jun. 23	10:17-11:31	26.1	-	—	—	—	1	
M43	NOAA_12713, SPoCA_21840	2018 Jun. 23	09:00-10:15	18.3	2.75	1.67 ± 0.10	0.52 ± 0.10	1.67 ± 0.10	2	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		Solar observations with single-dish INAF radio telescopes	n
M44	NOAA_12713, SPoCA_21840	2018 Jun. 23	10:17-11:31	26.1	-	-	-	-	2		
M43	NOAA_12715, SPoCA_21859	2018 Jun. 23	09:00-10:15	18.3	13.00	1.92 ± 0.10	2.06 ± 0.10	2.00 ± 0.10	3		
M44	NOAA_12715, SPoCA_21859	2018 Jun. 23	10:17-11:31	26.1	-	-	-	-	3		
M44	HMLSHARP_7276	2018 Jun. 23	10:17-11:31	26.1	49.00	> 1.97	> 3.70	> 1.99	4		
M43	HMLSHARP_7276	2018 Jun. 23	09:00-10:15	18.3	-	-	-	-	4		
M45	NOAA_12717, SPoCA_21941	2018 Aug. 6	10:00-11:15	18.3	47.75	1.81 ± 0.10	0.67 ± 0.10	1.88 ± 0.10	1		
M46	NOAA_12717, SPoCA_21941	2018 Aug. 6	11:18-12:32	26.1	-	-	-	-	1		
M45	SD-AR_M00013 (-378.2, +38.4)	2018 Aug. 6	10:00-11:15	18.3	46.50	< 1.89	< 2.00	< 1.89	2		
M46	SD-AR_M00013 (-378.2, +38.4)	2018 Aug. 6	11:18-12:32	26.1	-	-	-	-	2		
M45	SPoCA_21947	2018 Aug. 6	10:00-11:15	18.3	12.25	1.76 ± 0.10	-0.06 ± 0.10	1.93 ± 0.10	3		
M46	SPoCA_21947	2018 Aug. 6	11:18-12:32	26.1	-	-	-	-	3		
M47	NOAA_12718, SPoCA_21976	2018 Aug. 20	09:50-11:05	18.3	35.00	< 1.90	< 2.21	< 1.88	1		
M48	NOAA_12718, SPoCA_21976	2018 Aug. 20	11:08-12:22	26.1	-	-	-	-	1		
M47	NOAA_12719, SPoCA_21981	2018 Aug. 20	09:50-11:05	18.3	18.00	1.82 ± 0.10	1.24 ± 0.10	1.78 ± 0.10	2		
M48	NOAA_12719, SPoCA_21981	2018 Aug. 20	11:08-12:22	26.1	-	-	-	-	2		
M47	SD-AR_M00014 (+332.1, +258.0)	2018 Aug. 20	09:50-11:05	18.3	50.75	< 1.91	< 2.29	< 1.94	3		
M48	SD-AR_M00014 (+332.1, +258.0)	2018 Aug. 20	11:08-12:22	26.1	-	-	-	-	3		
M49	SPoCA_22078	2018 Sep. 21	10:00-11:15	18.3	62.25	< 1.92	< 2.78	< 1.90	1		
M50	SPoCA_22078	2018 Sep. 21	11:18-12:32	26.1	-	-	-	-	1		
M51	SD-AR_M00015 (-506.8, -227.3)	2018 Sep. 27	10:20-11:35	18.3	48.00	< 1.87	< 0.96	< 1.84	1		
M52	SD-AR_M00015 (-506.8, -227.3)	2018 Sep. 27	11:38-12:52	26.1	-	-	-	-	1		
M51	SD-AR_M00016 (+587.0, +15.0)	2018 Sep. 27	10:20-11:35	18.3	28.25	< 1.87	< 1.15	< 1.98	2		
M52	SD-AR_M00016 (+587.0, +15.0)	2018 Sep. 27	11:38-12:52	26.1	-	-	-	-	2		
M53	SD-AR_M00017 (-208.5, +68.3)	2018 Oct. 3	09:30-10:45	18.3	45.25	1.91 ± 0.10	2.26 ± 0.10	2.02 ± 0.10	1		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		n
M54	SD-AR_M00017 (-208.5, +68.3)	2018 Oct. 3	10:48-12:02	26.1	-	-	-	-	1	
M53	NOAA_12723, SPoCA_22102	2018 Oct. 3	09:30-10:45	18.3	12.75	1.85 ± 0.10	1.30 ± 0.10	1.86 ± 0.10	2	
M54	NOAA_12723, SPoCA_22102	2018 Oct. 3	10:48-12:02	26.1	-	-	-	-	2	
M57	SPoCA_22122	2018 Oct. 22	11:35-12:50	18.3	18.25	< 1.82	< -1.28	< 1.94	1	
M58	SPoCA_22122	2018 Oct. 22	12:52-14:07	26.1	-	-	-	-	1	
M57	SD-AR_M00018 (+526.1, +4.6)	2018 Oct. 22	11:35-12:50	18.3	50.50	< 1.85	< 0.57	< 1.85	2	
M58	SD-AR_M00018 (+526.1, +4.6)	2018 Oct. 22	12:52-14:07	26.1	-	-	-	-	2	
M61	SD-AR_M00019 (+397.4, +154.7)	2018 Oct. 31	11:02-12:16	26.1	48.25	1.92 ± 0.10	2.61 ± 0.10	1.87 ± 0.10	1	
M60	SD-AR_M00019 (+397.4, +154.7)	2018 Oct. 31	09:45-10:59	18.3	-	-	-	-	1	
M62	HML_SHARP_7321	2018 Nov. 9	11:42-12:57	26.1	45.50	1.94 ± 0.10	3.33 ± 0.10	1.98 ± 0.10	1	
M63	HML_SHARP_7321	2018 Nov. 9	10:29-11:40	18.3	-	-	-	-	1	
M64	NOAA_12726, SPoCA_22221	2018 Nov. 12	10:07-11:20	18.3	16.50	< 1.90	< 2.30	< 1.92	1	
M65	NOAA_12726, SPoCA_22221	2018 Nov. 12	11:23-12:37	26.1	-	-	-	-	1	
M64	SPoCA_22205	2018 Nov. 12	10:07-11:20	18.3	49.00	1.88 ± 0.10	1.64 ± 0.10	1.92 ± 0.10	2	
M65	SPoCA_22205	2018 Nov. 12	11:23-12:37	26.1	-	-	-	-	2	
M67	NOAA_12728, SPoCA_22251	2018 Nov. 26	11:23-12:37	26.1	44.50	1.87 ± 0.10	1.60 ± 0.10	1.62 ± 0.10	1	
M66	NOAA_12728, SPoCA_22251	2018 Nov. 26	10:05-11:20	18.3	-	-	-	-	1	
M68	SD-AR_M00020 (+474.3, +48.7)	2018 Nov. 29	10:05-11:20	18.3	49.00	< 1.87	< 1.21	< 1.92	1	
M69	SD-AR_M00020 (+474.3, +48.7)	2018 Nov. 29	11:23-12:37	26.1	-	-	-	-	1	
M70	NOAA_12729 ^a	2018 Dec. 6	11:15-12:30	18.3	18.75	1.72 ± 0.10	0.26 ± 0.10	1.92 ± 0.10	1	
M71	NOAA_12729 ^a	2018 Dec. 6	12:33-13:47	26.1	-	-	-	-	1	
M74	SPoCA_22823	2019 Jun. 12	08:30-09:45	18.3	45.25	< 1.88	< 1.54	< 2.92	1	
M75	SPoCA_22823	2019 Jun. 12	09:47-11:02	25.8	-	-	-	-	1	
M74	SD-AR_M00021 (+88.3, -12.1)	2019 Jun. 12	08:30-09:45	18.3	43.50	< 1.89	< 2.01	< 2.98	2	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		Solar observations with single-dish INAF radio telescopes	n
M75	SD-AR_M00021 (+88.3, -12.1)	2019 Jun. 12	09:47-11:02	25.8	-	-	-	-	2		
M76	SD-AR_M00022 (-390.6, -32.1)	2019 Jun. 13	13:15-14:30	18.3	16.75	< 1.90	< 2.22	< 2.92	1		
M77	SD-AR_M00022 (-390.6, -32.1)	2019 Jun. 13	14:33-15:47	25.8	-	-	-	-	1		
M76	SD-AR_M00023 (-27.7, +85.1)	2019 Jun. 13	13:15-14:30	18.3	10.50	1.94 ± 0.10	3.34 ± 0.10	2.84 ± 0.10	2		
M77	SD-AR_M00023 (-27.7, +85.1)	2019 Jun. 13	14:33-15:47	25.8	-	-	-	-	2		
M78	SD-AR_M00024 (+587.5, -133.2)	2019 Jun. 20	08:45-10:00	18.3	21.25	< 1.84	< -3.06	< 1.85	1		
M79	SD-AR_M00024 (+587.5, -133.2)	2019 Jun. 20	10:03-11:17	25.8	-	-	-	-	1		
M80	SD-AR_M00025 (+504.9, +103.0)	2019 Jun. 26	08:30-09:45	18.3	12.00	< 1.90	< 2.51	< 1.79	1		
M81	SD-AR_M00025 (+504.9, +103.0)	2019 Jun. 26	09:48-11:02	25.8	-	-	-	-	1		
M82	SPoCA_22886	2019 Jul. 3	08:30-09:45	18.3	40.00	< 1.97	< 4.05	< 1.86	1		
M83	SPoCA_22886	2019 Jul. 3	09:47-11:02	25.8	-	-	-	-	1		
M82	HMI.SHARP_7374	2019 Jul. 3	08:30-09:45	18.3	31.25	1.94 ± 0.10	2.97 ± 0.10	1.96 ± 0.10	2		
M83	HMI.SHARP_7374	2019 Jul. 3	09:47-11:02	25.8	-	-	-	-	2		
M82	SD-AR_M00026 (-568.0, +200.0)	2019 Jul. 3	08:30-09:45	18.3	20.50	< 1.88	< 1.70	< 1.81	3		
M83	SD-AR_M00026 (-568.0, +200.0)	2019 Jul. 3	09:47-11:02	25.8	-	-	-	-	3		
M84	SD-AR_M00027 (-408.9, +202.9)	2019 Jul. 4	09:05-10:20	18.3	37.75	< 1.91	< 2.54	< 1.90	1		
M85	SD-AR_M00027 (-408.9, +202.9)	2019 Jul. 4	10:22-11:37	25.8	-	-	-	-	1		
M84	SD-AR_M00028 (+51.1, +80.3)	2019 Jul. 4	09:05-10:20	18.3	48.75	1.95 ± 0.10	3.15 ± 0.10	1.89 ± 0.10	2		
M85	SD-AR_M00028 (+51.1, +80.3)	2019 Jul. 4	10:22-11:37	25.8	-	-	-	-	2		
M84	HMI.SHARP_7374	2019 Jul. 4	09:05-10:20	18.3	48.75	1.91 ± 0.10	2.40 ± 0.10	1.90 ± 0.10	3		
M85	HMI.SHARP_7374	2019 Jul. 4	10:22-11:37	25.8	-	-	-	-	3		
M86	NOAA_12744, SPoCA_22925	2019 Jul. 12	09:15-10:30	18.3	12.75	< 1.86	< 0.93	< 1.86	1		
M87	NOAA_12744, SPoCA_22925	2019 Jul. 12	10:32-11:47	25.8	-	-	-	-	1		
M88	SPoCA_22983	2019 Jul. 19	08:00-09:15	18.3	48.75	< 1.90	< 2.24	< 1.91	1		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		n
M89	SPoCA_22983	2019 Jul. 19	09:17-10:32	25.8	-	—	—	—	1	
M89	SD-AR_M00029 (+112.8, +70.0)	2019 Jul. 19	09:17-10:32	25.8	49.00	> 1.95	> 4.07	> 1.89	2	
M88	SD-AR_M00029 (+112.8, +70.0)	2019 Jul. 19	08:00-09:15	18.3	-	—	—	—	2	
M90	SD-AR_M00030 (-82.5, +293.6)	2019 Jul. 24	09:35-10:50	18.3	20.75	< 1.91	< 2.52	< 1.77	1	
M91	SD-AR_M00030 (-82.5, +293.6)	2019 Jul. 24	10:52-12:07	25.8	-	—	—	—	1	
M90	SPoCA_22998	2019 Jul. 24	09:35-10:50	18.3	9.50	< 1.86	< 0.92	< 2.06	2	
M91	SPoCA_22998	2019 Jul. 24	10:52-12:07	25.8	-	—	—	—	2	
M92	SD-AR_M00031 (+187.0, +45.2)	2019 Jul. 30	08:10-09:25	18.3	21.00	1.95 ± 0.10	3.35 ± 0.10	1.97 ± 0.10	1	
M93	SD-AR_M00031 (+187.0, +45.2)	2019 Jul. 30	09:27-10:42	25.8	-	—	—	—	1	
M94	NOAA_12747, SPoCA_23064	2019 Aug. 7	10:00-11:14	18.3	28.00	1.93 ± 0.10	2.59 ± 0.10	1.95 ± 0.10	1	
M95	NOAA_12747, SPoCA_23064	2019 Aug. 7	11:17-12:31	25.8	-	—	—	—	1	
M94	SD-AR_M00032 (-398.6, +333.1)	2019 Aug. 7	10:00-11:14	18.3	14.00	< 1.97	< 4.41	< 1.73	2	
M95	SD-AR_M00032 (-398.6, +333.1)	2019 Aug. 7	11:17-12:31	25.8	-	—	—	—	2	
M100	SD-AR_M00033 (+178.3, -69.6)	2019 Sep. 5	07:30-08:45	18.3	26.25	< 1.90	< 2.54	< 1.93	1	
M101	SD-AR_M00033 (+178.3, -69.6)	2019 Sep. 5	08:48-10:02	25.8	-	—	—	—	1	
M102	SD-AR_M00034 (+371.6, +383.7)	2019 Sep. 10	09:50-11:05	18.3	51.50	< 1.88	< 1.30	< 1.89	1	
M103	SD-AR_M00034 (+371.6, +383.7)	2019 Sep. 10	11:08-12:22	25.8	-	—	—	—	1	
M106	SD-AR_M00035 (+175.6, +88.3)	2019 Sep. 24	10:55-12:10	18.3	22.00	< 1.92	< 2.85	< 1.99	1	
M107	SD-AR_M00035 (+175.6, +88.3)	2019 Sep. 24	12:13-13:27	25.8	-	—	—	—	1	
M108	SD-AR_M00036 (-456.5, -204.0)	2019 Oct. 1	09:10-10:25	18.3	34.75	< 1.89	< 1.66	< 1.84	1	
M109	SD-AR_M00036 (-456.5, -204.0)	2019 Oct. 1	10:28-11:42	25.8	-	—	—	—	1	
M109	SD-AR_M00037 (+142.6, +86.9)	2019 Oct. 1	10:28-11:42	25.8	33.75	> 1.93	> 4.09	> 1.90	2	
M108	SD-AR_M00037 (+142.6, +86.9)	2019 Oct. 1	09:10-10:25	18.3	-	—	—	—	2	
M110	SD-AR_M00038 (-485.1, +63.1)	2019 Oct. 9	09:10-10:25	18.3	29.50	< 1.40	- ^b	< 1.36	1	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.^c There are two very close ARs in this position. Our algorithm detected a unique AR.^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.^f Same region.^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		Solar observations with single-dish INAF radio telescopes	n
M111	SD-AR_M00038 (-485.1, +63.1)	2019 Oct. 9	10:28-11:42	25.8	-	-	-	-	1		
M110	SD-AR_M00039 (+245.3, -293.2)	2019 Oct. 9	09:10-10:25	18.3	50.50	< 1.33	- ^b	< 1.29	2		
M111	SD-AR_M00039 (+245.3, -293.2)	2019 Oct. 9	10:28-11:42	25.8	-	-	-	-	2		
M110	SPoCA_23273	2019 Oct. 9	09:10-10:25	18.3	26.75	< 1.36	- ^b	< 1.34	3		
M111	SPoCA_23273	2019 Oct. 9	10:28-11:42	25.8	-	-	-	-	3		
S112	SD-AR_S00001 (-381.2, -629.1)	2019 Oct. 9	11:46-13:30	18.8	13.68	< 1.91	< 2.48	< 0.80	1		
S113	SD-AR_S00001 (-381.2, -629.1)	2019 Oct. 9	09:14-10:58	24.7	-	-	-	-	1		
S112	SPoCA_23273	2019 Oct. 9	11:46-13:30	18.8	45.72	< 1.81	< 0.17	< 0.56	2		
S113	SPoCA_23273	2019 Oct. 9	09:14-10:58	24.7	-	-	-	-	2		
S112	SD-AR_S00002 (-59.9, +798.2) ^f	2019 Oct. 9	11:46-13:30	18.8	23.40	< 1.88	< 1.76	< 0.59	3		
S113	SD-AR_S00002 (-59.9, +798.2) ^f	2019 Oct. 9	09:14-10:58	24.7	-	-	-	-	3		
S113	SD-AR_S00002 (-165.9, +797.0) ^f	2019 Oct. 9	09:14-10:58	24.7	12.75	> 1.88	> 1.76	> 0.71	4		
S112	SD-AR_S00002 (-165.9, +797.0) ^f	2019 Oct. 9	11:46-13:30	18.8	-	-	-	-	4		
M114	SD-AR_M00040 (+195.9, -109.9)	2019 Oct. 14	12:40-13:55	18.3	48.75	< 1.92	< 3.06	< 1.91	2		
M115	SD-AR_M00040 (+195.9, -109.9)	2019 Oct. 14	13:58-15:12	25.8	-	-	-	-	2		
M116	SD-AR_M00041 (-599.7, -226.6)	2019 Oct. 23	11:50-13:05	18.3	29.75	< 1.83	< -2.81	< 1.78	1		
M117	SD-AR_M00041 (-599.7, -226.6)	2019 Oct. 23	13:08-14:22	25.8	-	-	-	-	1		
M118	SPoCA_23409	2019 Nov. 4	10:15-11:30	18.3	43.00	< 1.79	< -1.67	< 1.75	1		
M119	SPoCA_23409	2019 Nov. 4	11:33-12:47	25.8	-	-	-	-	1		
M120	SD-AR_M00042 (+298.5, +25.1)	2019 Nov. 14	10:25-11:40	18.3	36.00	1.93 ± 0.10	3.21 ± 0.10	1.94 ± 0.10	1		
M121	SD-AR_M00042 (+298.5, +25.1)	2019 Nov. 14	11:42-12:57	25.8	-	-	-	-	1		
M120	NOAA_12752, SPoCA_23461	2019 Nov. 14	10:25-11:40	18.3	10.00	< 1.75	< -3.37	< 1.96	2		
M121	NOAA_12752, SPoCA_23461	2019 Nov. 14	11:42-12:57	25.8	-	-	-	-	2		
M122	SPoCA_23479	2019 Nov. 21	10:10-11:25	18.3	31.25	< 1.87	< 0.76	< 1.90	1		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		n
M123	SPoCA.23479	2019 Nov. 21	11:27-12:42	25.8	-	—	—	—	1	
M122	SD-AR.M00043 (+201.2, -376.0)	2019 Nov. 21	10:10-11:25	18.3	19.25	< 1.90	< 2.30	< 1.89	2	
M123	SD-AR.M00043 (+201.2, -376.0)	2019 Nov. 21	11:27-12:42	25.8	-	—	—	—	2	
M123	SD-AR.M00044 (+83.6, +73.3)	2019 Nov. 21	11:27-12:42	25.8	48.75	> 1.94	> 4.78	> 1.86	3	
M122	SD-AR.M00044 (+83.6, +73.3)	2019 Nov. 21	10:10-11:25	18.3	-	—	—	—	3	
M124	SD-AR.M00045 (-404.2, +203.9)	2019 Nov. 26	10:00-11:15	18.3	20.52	< 1.90	< 2.27	< 0.63	1	
M125	SD-AR.M00045 (-404.2, +203.9)	2019 Nov. 26	11:17-12:32	25.8	-	—	—	—	1	
S128	SPoCA.23783	2020 Jan. 28	13:40-15:24	24.7	13.00	1.66 ± 0.13	0.50 ± 0.13	-1.58 ± 0.13	1	
S126	SPoCA.23783	2020 Jan. 28	09:41-11:25	18.8	-	—	—	—	1	
S128	SPoCA.23783	2020 Jan. 28	13:40-15:24	24.7	13.00	1.71 ± 0.13	0.74 ± 0.13	1.77 ± 0.13	1	
S127	SPoCA.23783	2020 Jan. 28	11:26-13:18	18.8	-	—	—	—	1	
S128	NOAA.12757, SPoCA.23779	2020 Jan. 28	13:40-15:24	24.7	7.75	1.80 ± 0.13	1.38 ± 0.13	-1.86 ± 0.13	2	
S126	NOAA.12757, SPoCA.23779	2020 Jan. 28	09:41-11:25	18.8	-	—	—	—	2	
S128	NOAA.12757, SPoCA.23779	2020 Jan. 28	13:40-15:24	24.7	7.75	1.79 ± 0.13	1.33 ± 0.13	1.92 ± 0.13	2	
S127	NOAA.12757, SPoCA.23779	2020 Jan. 28	11:26-13:18	18.8	-	—	—	—	2	
S128	SPoCA.23787	2020 Jan. 28	13:40-15:24	24.7	4.00	> 1.84	> 0.90	> 2.14	3	
S127	SPoCA.23787	2020 Jan. 28	11:26-13:18	18.8	-	—	—	—	3	
S128	SPoCA.23787	2020 Jan. 28	13:40-15:24	24.7	4.00	> 1.95	> 3.84	> -1.72	3	
S126	SPoCA.23787	2020 Jan. 28	09:41-11:25	18.8	-	—	—	—	3	
M129	NOAA.12770, SPoCA.24500	2020 Aug. 10	09:10-10:24	18.3	25.20	1.81 ± 0.10	1.11 ± 0.10	2.04 ± 0.10	1	
M130	NOAA.12770, SPoCA.24500	2020 Aug. 10	10:27-11:42	25.8	-	—	—	—	1	
M129	NOAA.12769, SPoCA.24497	2020 Aug. 10	09:10-10:24	18.3	48.24	< 1.80	< 0.14	< 1.94	2	
M130	NOAA.12769, SPoCA.24497	2020 Aug. 10	10:27-11:42	25.8	-	—	—	—	2	
M129	SD-AR.M00046 (-594.6, -380.8)	2020 Aug. 10	09:10-10:24	18.3	20.52	< 1.87	< 1.17	< 1.92	3	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA.22276, SPoCA.22279, and SPoCA.22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA.24850, SPoCA.24851, and SPoCA.24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA.12793/SPoCA.24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA.12792/SPoCA.24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		Solar observations with single-dish INAF radio telescopes	n
M130	SD-AR.M00046 (-594.6, -380.8)	2020 Aug. 10	10:27-11:42	25.8	-	—	—	—	3		
M132	SPoCA.24514	2020 Aug. 17	10:32-11:47	25.8	7.56	1.86 ± 0.10	1.23 ± 0.10	2.15 ± 0.10	1		
M131	SPoCA.24514	2020 Aug. 17	09:15-10:29	18.3	-	—	—	—	1		
M131	SPoCA.24533	2020 Aug. 17	09:15-10:29	18.3	52.20	< 1.87	< 1.29	< 1.91	2		
M132	SPoCA.24533	2020 Aug. 17	10:32-11:47	25.8	-	—	—	—	2		
M131	NOAA.12772, SPoCA.24530	2020 Aug. 17	09:15-10:29	18.3	27.36	1.89 ± 0.10	1.88 ± 0.10	1.94 ± 0.10	3		
M132	NOAA.12772, SPoCA.24530	2020 Aug. 17	10:32-11:47	25.8	-	—	—	—	3		
M133	SD-AR.M00047 (+89.5, -321.3)	2020 Aug. 26	09:10-10:24	18.3	27.00	< 1.92	< 3.10	< 1.91	1		
M134	SD-AR.M00047 (+89.5, -321.3)	2020 Aug. 26	10:27-11:42	25.8	-	—	—	—	1		
M135	HMLSHARP.7443	2020 Sep. 2	09:15-10:29	18.3	27.72	< 1.90	< 2.05	< 1.98	1		
M136	HMLSHARP.7443	2020 Sep. 2	10:32-11:47	25.8	-	—	—	—	1		
M137	SD-AR.M00048 (+248.3, -73.5)	2020 Sep. 6	08:00-09:14	18.3	16.92	< 1.90	< 2.47	< 2.08	1		
M138	SD-AR.M00048 (+248.3, -73.5)	2020 Sep. 6	09:17-10:32	25.8	-	—	—	—	1		
M137	SD-AR.M00049 (-464.4, +391.4)	2020 Sep. 6	08:00-09:14	18.3	24.12	< 1.90	< 2.14	< 1.90	2		
M138	SD-AR.M00049 (-464.4, +391.4)	2020 Sep. 6	09:17-10:32	25.8	-	—	—	—	2		
M137	SPoCA.24604	2020 Sep. 6	08:00-09:14	18.3	23.04	< 1.89	< 1.90	< 1.94	3		
M138	SPoCA.24604	2020 Sep. 6	09:17-10:32	25.8	-	—	—	—	3		
M139	SD-AR.M00050 (-472.0, -411.1)	2020 Sep. 14	10:10-11:24	18.3	7.92	< 1.80	^b	< 2.17	1		
M140	SD-AR.M00050 (-472.0, -411.1)	2020 Sep. 14	11:27-12:42	25.8	-	—	—	—	1		
M139	SPoCA.24651	2020 Sep. 14	10:10-11:24	18.3	16.20	< 1.83	< -1.33	< 1.90	2		
M140	SPoCA.24651	2020 Sep. 14	11:27-12:42	25.8	-	—	—	—	2		
S141	SD-AR.S00003 (-109.6, -862.2)	2020 Sep. 17	09:18-11:02	18.8	11.88	< 1.83	< 0.21	< 1.99	1		
S142	SD-AR.S00003 (-109.6, -862.2)	2020 Sep. 17	11:18-13:02	24.7	-	—	—	—	1		
S142	SD-AR.S00004 (-195.9, -503.2)	2020 Sep. 17	11:18-13:02	24.7	10.08	1.85 ± 0.13	0.91 ± 0.13	1.62 ± 0.13	2		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA.22276, SPoCA.22279, and SPoCA.22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA.24850, SPoCA.24851, and SPoCA.24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA.12793/SPoCA.24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA.12792/SPoCA.24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		n
S141	SD-AR_S00004 (-195.9, -503.2)	2020 Sep. 17	09:18-11:02	18.8	-	—	—	—	2	
S141	SD-AR_S00005 (-8.7, +828.8)	2020 Sep. 17	09:18-11:02	18.8	19.44	1.86 ± 0.13	1.33 ± 0.13	1.89 ± 0.13	3	
S142	SD-AR_S00005 (-8.7, +828.8)	2020 Sep. 17	11:18-13:02	24.7	-	—	—	—	3	
S142	SD-AR_S00006 (-546.4, -503.5)	2020 Sep. 17	11:18-13:02	24.7	15.84	> 1.92	> 2.75	> 1.89	4	
S141	SD-AR_S00006 (-546.4, -503.5)	2020 Sep. 17	09:18-11:02	18.8	-	—	—	—	4	
S142	SD-AR_S00007 (-193.6, -342.2)	2020 Sep. 17	11:18-13:02	24.7	10.80	> 1.92	> 3.03	> 1.78	5	
S141	SD-AR_S00007 (-193.6, -342.2)	2020 Sep. 17	09:18-11:02	18.8	-	—	—	—	5	
S142	SD-AR_S00008 (-712.7, +358.8)	2020 Sep. 17	11:18-13:02	24.7	10.08	> 1.92	> 2.95	> 1.65	6	
S141	SD-AR_S00008 (-712.7, +358.8)	2020 Sep. 17	09:18-11:02	18.8	-	—	—	—	6	
M143	SPoCA.24702	2020 Sep. 29	09:00-10:14	18.3	57.96	1.90 ± 0.10	2.11 ± 0.10	1.89 ± 0.10	1	
M144	SPoCA.24702	2020 Sep. 29	10:17-11:32	25.8	-	—	—	—	1	
M143	NOAA.12773, SPoCA.24694	2020 Sep. 29	09:00-10:14	18.3	54.00	1.75 ± 0.10	0.64 ± 0.10	1.88 ± 0.10	2	
M144	NOAA.12773, SPoCA.24694	2020 Sep. 29	10:17-11:32	25.8	-	—	—	—	2	
M147	NOAA.12776, SPoCA.24743	2020 Oct. 19	08:00-09:14	18.3	25.20	1.73 ± 0.10	0.26 ± 0.10	1.79 ± 0.10	1	
M148	NOAA.12776, SPoCA.24743	2020 Oct. 19	09:17-10:32	25.8	-	—	—	—	1	
M148	SD-AR_M00051 (+106.5, +10.3)	2020 Oct. 19	09:17-10:32	25.8	71.28	> 1.95	> 4.33	> 1.96	2	
M147	SD-AR_M00051 (+106.5, +10.3)	2020 Oct. 19	08:00-09:14	18.3	-	—	—	—	2	
S150	SPoCA.24770, SPoCA.24772 ^c	2020 Oct. 29	10:17-12:01	18.8	34.79	1.19 ± 0.13	0.01 ± 0.13	1.51 ± 0.13	1	
S149	SPoCA.24770, SPoCA.24772 ^c	2020 Oct. 29	08:32-10:05	24.7	-	—	—	—	1	
S149	SPoCA.24760	2020 Oct. 29	08:32-10:05	24.7	6.37	1.84 ± 0.13	1.46 ± 0.13	1.81 ± 0.13	2	
S150	SPoCA.24760	2020 Oct. 29	10:17-12:01	18.8	-	—	—	—	2	
M152	NOAA.12778, SPoCA.24770	2020 Oct. 30	09:32-10:47	25.8	13.68	1.45 ± 0.10	-0.88 ± 0.10	1.85 ± 0.10	1	
M151	NOAA.12778, SPoCA.24770	2020 Oct. 30	08:15-09:29	18.3	-	—	—	—	1	
M151	SD-AR_M00052 (-21.8, +487.4)	2020 Oct. 30	08:15-09:29	18.3	32.04	1.90 ± 0.10	2.44 ± 0.10	1.80 ± 0.10	2	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA.22276, SPoCA.22279, and SPoCA.22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA.24850, SPoCA.24851, and SPoCA.24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA.12793/SPoCA.24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA.12792/SPoCA.24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		Solar observations with single-dish INAF radio telescopes	n
M152	SD-AR.M00052 (-21.8, +487.4)	2020 Oct. 30	09:32-10:47	25.8	-	—	—	—	2		
M152	SD-AR.M00053 (-87.9, -192.3)	2020 Oct. 30	09:32-10:47	25.8	52.92	> 1.93	> 4.08	> 1.93	3		
M151	SD-AR.M00053 (-87.9, -192.3)	2020 Oct. 30	08:15-09:29	18.3	-	—	—	—	3		
M153	NOAA.12781, SPoCA.24790	2020 Nov. 6	09:52-11:07	25.8	21.96	1.11 ± 0.10	-0.12 ± 0.10	1.37 ± 0.10	1		
M154	NOAA.12781, SPoCA.24790	2020 Nov. 6	08:35-09:49	18.3	-	—	—	—	1		
M153	NOAA.12780, SPoCA.24778	2020 Nov. 6	09:52-11:07	25.8	69.48	> 1.83	> 1.00	> 1.90	2		
M154	NOAA.12780, SPoCA.24778	2020 Nov. 6	08:35-09:49	18.3	-	—	—	—	2		
M153	SPoCA.24797	2020 Nov. 6	09:52-11:07	25.8	29.52	> 1.85	> 1.02	> 1.82	3		
M154	SPoCA.24797	2020 Nov. 6	08:35-09:49	18.3	-	—	—	—	3		
M157	NOAA.12781, SPoCA.24790	2020 Nov. 11	11:17-12:32	25.8	32.04	1.54 ± 0.10	0.13 ± 0.10	1.86 ± 0.10	1		
M156	NOAA.12781, SPoCA.24790	2020 Nov. 11	10:00-11:14	18.3	-	—	—	—	1		
M156	NOAA.12782, SPoCA.24807	2020 Nov. 11	10:00-11:14	18.3	4.68	< 1.66	^{-b}	< 1.47	2		
M157	NOAA.12782, SPoCA.24807	2020 Nov. 11	11:17-12:32	25.8	-	—	—	—	2		
M156	SD-AR.M00054 (+24.6, -404.7)	2020 Nov. 11	10:00-11:14	18.3	28.44	< 1.88	< 1.27	< 1.90	3		
M157	SD-AR.M00054 (+24.6, -404.7)	2020 Nov. 11	11:17-12:32	25.8	-	—	—	—	3		
M156	NOAA.12780, SPoCA.24778	2020 Nov. 11	10:00-11:14	18.3	10.44	< 1.80	< -1.29	< 2.02	4		
M157	NOAA.12780, SPoCA.24778	2020 Nov. 11	11:17-12:32	25.8	-	—	—	—	4		
M158	NOAA.12783, SPoCA.24812	2020 Nov. 23	09:15-10:29	18.3	31.68	1.54 ± 0.10	-0.73 ± 0.10	1.91 ± 0.10	1		
M159	NOAA.12783, SPoCA.24812	2020 Nov. 23	12:22-13:37	25.8	-	—	—	—	1		
M158	NOAA.12784, SPoCA.24823	2020 Nov. 23	09:15-10:29	18.3	41.04	1.76 ± 0.10	-0.27 ± 0.10	1.87 ± 0.10	2		
M159	NOAA.12784, SPoCA.24823	2020 Nov. 23	12:22-13:37	25.8	-	—	—	—	2		
M158	SPoCA.24821	2020 Nov. 23	09:15-10:29	18.3	52.20	< 1.60	< -0.44	< 1.93	3		
M159	SPoCA.24821	2020 Nov. 23	12:22-13:37	25.8	-	—	—	—	3		
M158	NOAA.12786, SPoCA.24827	2020 Nov. 23	09:15-10:29	18.3	8.28	< 1.14	^{-b}	< 0.57	4		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA.22276, SPoCA.22279, and SPoCA.22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA.24850, SPoCA.24851, and SPoCA.24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA.12793/SPoCA.24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA.12792/SPoCA.24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		n
M159	NOAA.12786, SPoCA.24827	2020 Nov. 23	12:22-13:37	25.8	-	—	—	—	4	
M160	SPoCA.24827, SPoCA.24840 ^c	2020 Nov. 28	10:35-11:49	18.3	63.36	1.37 ± 0.10	-0.16 ± 0.10	1.68 ± 0.10	1	
M161	SPoCA.24827, SPoCA.24840 ^c	2020 Nov. 28	11:52-13:04	25.8	-	—	—	—	1	
M160	NOAA.12783, SPoCA.24812	2020 Nov. 28	10:35-11:49	18.3	5.76	< 1.71	< -3.24	< 1.37	2	
M161	NOAA.12783, SPoCA.24812	2020 Nov. 28	11:52-13:04	25.8	-	—	—	—	2	
M163	NOAA.12789, SPoCA.24834	2020 Nov. 30	10:42-11:57	25.8	22.32	1.68 ± 0.10	-0.44 ± 0.10	1.89 ± 0.10	1	
M162	NOAA.12789, SPoCA.24834	2020 Nov. 30	09:25-10:39	18.3	-	—	—	—	1	
M163	SPoCA.24827 ^d	2020 Nov. 30	10:42-11:57	25.8	67.68	1.53 ± 0.10	-0.07 ± 0.10	1.69 ± 0.10	2	
M162	SPoCA.24827 ^d	2020 Nov. 30	09:25-10:39	18.3	-	—	—	—	2	
M163	NOAA.12787, SPoCA.24849	2020 Nov. 30	10:42-11:57	25.8	13.68	1.86 ± 0.10	1.10 ± 0.10	1.88 ± 0.10	3	
M162	NOAA.12787, SPoCA.24849	2020 Nov. 30	09:25-10:39	18.3	-	—	—	—	3	
M164	NOAA.12790, SPoCA.24848 ^e	2020 Dec. 7	09:15-13:29	18.3	65.16	< 1.83	< 1.37	< 1.88	1	
M165	NOAA.12790, SPoCA.24848 ^e	2020 Dec. 7	10:32-11:47	25.8	-	—	—	—	1	
M164	NOAA.12791, SPoCA.24870 ^e	2020 Dec. 7	09:15-13:29	18.3	41.76	< 1.46	< -2.49	< 1.56	2	
M165	NOAA.12791, SPoCA.24870 ^e	2020 Dec. 7	10:32-11:47	25.8	-	—	—	—	2	
M166	NOAA.12792, SPoCA.24918	2020 Dec. 13	09:15-13:29	18.3	10.08	< 1.64	^b	< 1.64	1	
M167	NOAA.12792, SPoCA.24918	2020 Dec. 13	10:32-11:47	25.8	-	—	—	—	1	
M166	SPoCA.24905	2020 Dec. 13	09:15-13:29	18.3	21.24	< 1.86	< 0.70	< 1.82	2	
M167	SPoCA.24905	2020 Dec. 13	10:32-11:47	25.8	-	—	—	—	2	
M166	SD-AR.M00055 (+183.2, -545.2)	2020 Dec. 13	09:15-13:29	18.3	31.68	< 1.86	< 0.16	< 1.83	3	
M167	SD-AR.M00055 (+183.2, -545.2)	2020 Dec. 13	10:32-11:47	25.8	-	—	—	—	3	
M167	NOAA.12791, SPoCA.24917	2020 Dec. 13	10:32-11:47	25.8	6.12	1.87 ± 0.10	1.14 ± 0.10	1.71 ± 0.10	4	
M166	NOAA.12791, SPoCA.24917	2020 Dec. 13	09:15-13:29	18.3	-	—	—	—	4	
M169	NOAA.12792, SPoCA.24918 ^g	2020 Dec. 21	11:02-12:17	25.8	24.12	1.74 ± 0.10	-0.001 ± 0.10	1.86 ± 0.10	1	

^a This AR corresponds also to other 3 SPoCA targets: SPoCA.22276, SPoCA.22279, and SPoCA.22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA.24850, SPoCA.24851, and SPoCA.24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA.12793/SPoCA.24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA.12792/SPoCA.24918) that pollutes our measures.

Table ESM.3.: Continued.

ID	<i>ar_id</i>	Epoch	T (UT)	ν_{obs} (GHz)	Size (arcmin ²)	α_{T_p}	$\alpha_{T_{\text{ex}}}$	α_{tot}		Solar observations with single-dish INAF radio telescopes	n
M168	NOAA_12792, SPoCA_24918 ^g	2020 Dec. 21	09:45-10:59	18.3	-	—	—	—	1		
M168	NOAA_12793, SPoCA_24935 ^h	2020 Dec. 21	09:45-10:59	18.3	70.92	1.74 ± 0.10	-0.001 ± 0.10	1.90 ± 0.10	2		
M169	NOAA_12793, SPoCA_24935 ^h	2020 Dec. 21	11:02-12:17	25.8	-	—	—	—	2		
M168	NOAA_12794, SPoCA_24943	2020 Dec. 21	09:45-10:59	18.3	9.72	< 1.87	< 1.13	< 1.79	3		
M169	NOAA_12794, SPoCA_24943	2020 Dec. 21	11:02-12:17	25.8	-	—	—	—	3		
M168	SPoCA_24945	2020 Dec. 21	09:45-10:59	18.3	64.08	< 1.88	< 1.55	< 1.89	4		
M169	SPoCA_24945	2020 Dec. 21	11:02-12:17	25.8	-	—	—	—	4		

^a This AR corresponds also to other 3 SPoCA targets: SPoCA_22276, SPoCA_22279, and SPoCA_22280.

^b Unknown flux because the brightness temperature of the AR pixels is lower than the quiet-Sun.

^c There are two very close ARs in this position. Our algorithm detected a unique AR.

^d This AR corresponds also to other 3 SPoCA targets: SPoCA_24850, SPoCA_24851, and SPoCA_24853.

^e The quality of the 25.8 GHz-solar map on December 7, 2020 is very low.

^f Same region.

^g There is a very close AR in this position (NOAA_12793/SPoCA_24935) that pollutes our measures.

^h There is a very close AR in this position (NOAA_12792/SPoCA_24918) that pollutes our measures.