

Supplemental Information

Supplemental Table 1: Subject Demographics

Subject	Sex (F/M)	Age ¹	Disease Duration ¹	MDS-UPDRS-III OFF/ON*
1	F	61	8	30/15
2	F	56	11	44/21
3	F	55	8	47/33
4	M	67	8	31/9
5	M	62	13	47/39
MEAN	4/6	61.4	9.20	
STD	-	6.69	3.71	

* “ON” and “OFF” refer to pre-operative medication status, “OFF” was measured after at least 12 hours withhold of medication. Age as in years. F: female, M: male, STD: standard deviation, 1: in years.

Supplemental Table 2: Reviewer KS p-values and Rank-Sum p-values

Reviewer ID	KS P-value	RS P-value	Sign.
1	0.97	0.36	No
2	1.00	0.71	No
3	1.00	0.74	No
4	0.78	0.31	No
5	0.49	0.06	No
6	1.00	0.94	No
7	0.87	0.38	No

Reviewer ID	KS P-value	RS P-value	Sign.
I	1.1E-06	5.4E-06	Yes (both)
II	0.01	2.0E-05	Yes (both)
III	1.00	0.71	No
IV	0.98	0.65	No
V	0.99	0.92	No
VI	0.02	0.00	Yes (both)
VII	0.35	0.09	No
VIII	0.81	0.39	No
IX	0.93	0.73	No
X	0.00	0.00	Yes (both)

Figure 1 consists of two charts. The top chart is a bar plot showing the frequency of intersection sizes. The x-axis represents the intersection size (0 to 214), and the y-axis represents the frequency (0 to 90). The bars are labeled with their respective frequencies: 89 for size 0, 27 for size 1, 18 for size 2, 16 for size 3, 6 for size 4, 5 for size 5, 4 for size 6, 4 for size 7, 3 for size 8, 3 for size 9, 3 for size 10, 3 for size 11, 3 for size 12, 3 for size 13, 2 for size 14, 2 for size 15, 2 for size 16, 2 for size 17, 2 for size 18, 2 for size 19, 2 for size 20, 2 for size 21, 2 for size 22, 2 for size 23, 2 for size 24, 2 for size 25, 1 for size 26, 1 for size 27, 1 for size 28, 1 for size 29, 1 for size 30, 1 for size 31, 1 for size 32, 1 for size 33, 1 for size 34, 1 for size 35, 1 for size 36, 1 for size 37, 1 for size 38, 1 for size 39, 1 for size 40, 1 for size 41, 1 for size 42, 1 for size 43, 1 for size 44, 1 for size 45, 1 for size 46, 1 for size 47, 1 for size 48, 1 for size 49, 1 for size 50, 1 for size 51, 1 for size 52, 1 for size 53, 1 for size 54, 1 for size 55, 1 for size 56, 1 for size 57, 1 for size 58, 1 for size 59, 1 for size 60, 1 for size 61, 1 for size 62, 1 for size 63, 1 for size 64, 1 for size 65, 1 for size 66, 1 for size 67, 1 for size 68, 1 for size 69, 1 for size 70, 1 for size 71, 1 for size 72, 1 for size 73, 1 for size 74, 1 for size 75, 1 for size 76, 1 for size 77, 1 for size 78, 1 for size 79, 1 for size 80, 1 for size 81, 1 for size 82, 1 for size 83, 1 for size 84, 1 for size 85, 1 for size 86, 1 for size 87, 1 for size 88, 1 for size 89, 1 for size 90, 1 for size 91, 1 for size 92, 1 for size 93, 1 for size 94, 1 for size 95, 1 for size 96, 1 for size 97, 1 for size 98, 1 for size 99, 1 for size 100, 1 for size 101, 1 for size 102, 1 for size 103, 1 for size 104, 1 for size 105, 1 for size 106, 1 for size 107, 1 for size 108, 1 for size 109, 1 for size 110, 1 for size 111, 1 for size 112, 1 for size 113, 1 for size 114, 1 for size 115, 1 for size 116, 1 for size 117, 1 for size 118, 1 for size 119, 1 for size 120, 1 for size 121, 1 for size 122, 1 for size 123, 1 for size 124, 1 for size 125, 1 for size 126, 1 for size 127, 1 for size 128, 1 for size 129, 1 for size 130, 1 for size 131, 1 for size 132, 1 for size 133, 1 for size 134, 1 for size 135, 1 for size 136, 1 for size 137, 1 for size 138, 1 for size 139, 1 for size 140, 1 for size 141, 1 for size 142, 1 for size 143, 1 for size 144, 1 for size 145, 1 for size 146, 1 for size 147, 1 for size 148, 1 for size 149, 1 for size 150, 1 for size 151, 1 for size 152, 1 for size 153, 1 for size 154, 1 for size 155, 1 for size 156, 1 for size 157, 1 for size 158, 1 for size 159, 1 for size 160, 1 for size 161, 1 for size 162, 1 for size 163, 1 for size 164, 1 for size 165, 1 for size 166, 1 for size 167, 1 for size 168, 1 for size 169, 1 for size 170, 1 for size 171, 1 for size 172, 1 for size 173, 1 for size 174, 1 for size 175, 1 for size 176, 1 for size 177, 1 for size 178, 1 for size 179, 1 for size 180, 1 for size 181, 1 for size 182, 1 for size 183, 1 for size 184, 1 for size 185, 1 for size 186, 1 for size 187, 1 for size 188, 1 for size 189, 1 for size 190, 1 for size 191, 1 for size 192, 1 for size 193, 1 for size 194, 1 for size 195, 1 for size 196, 1 for size 197, 1 for size 198, 1 for size 199, 1 for size 200, 1 for size 201, 1 for size 202, 1 for size 203, 1 for size 204, 1 for size 205, 1 for size 206, 1 for size 207, 1 for size 208, 1 for size 209, 1 for size 210, 1 for size 211, 1 for size 212, 1 for size 213, 1 for size 214.

The bottom chart is a horizontal bar plot showing the frequency of set sizes for sets R1 through R7. The x-axis represents the set size (0 to 250), and the y-axis lists the sets. The bars are labeled with their respective frequencies: 153 for R7, 172 for R4, 201 for R6, 205 for R1, 206 for R5, 207 for R3, and 214 for R2.

UpSet plot depicts the combination of reviewer groups that accurately identified the consensus peak for a set of PSDs. Horizontal bar chart depicts the total number of PSDs across sets in which the reviewer accurately identified the consensus peak. Vertical bar chart represents the frequency of set intersections (meaning the combination of reviewers agreeing upon a set of PSDs) ordered from the highest number of intersections (most common set combinations) to the lowest number of intersections (least common set combinations). The connected dot plots indicate the reviewers included in each intersection set.

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UpSet plot depicts the combination of algorithm groups that accurately identified the consensus peak for a set of PSDs. Horizontal bar chart depicts the total number of PSDs across sets in which the algorithm accurately identified the consensus peak. Vertical bar chart depicts the number of intersections between sets (meaning the combination of algorithms agreeing upon a set of PSDs) ordered from the highest number of intersections (most common set combinations) to the least common. The lower connected dot plots indicate the algorithms included in each intersection set.