

Online Resource C: results one-dimensional simulation ensemble

Belongs with: Model-based geostatistics from a Bayesian perspective: Investigating area-to-point kriging with small datasets
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Table. Results one-dimensional simulation ensemble with validating on original signal. Shown results are the average over, or the fraction of, 250 simulations. Smallfont numbers show the corresponding standard deviation.
m: number of area means, c.q. number of observations; *Algorithm*: explained in the text; *ME*: mean error; *RMSE*: root mean squared error; *FIR(1) or FIR(2)*: fraction of original signal inside region of +/- 1 or +/- 2 prediction sd; *StSE*: standardised squared error; *max(MPP)*: the maximal found difference with respect to the mass preserving property; $\hat{\sigma}^2$: estimated variance according to REML; *mode*(σ^2) mode of the variance according to the Bayesian approaches $\hat{\phi}$: estimated range parameter according to REML and MML; *mode*(ϕ) mode of the range parameter according to the Bayesian approaches; ϕ_{sim} in C.I.: ϕ_{sim} inside 90% credibility interval of posterior ϕ ; $\hat{\phi}$, *mode*(ϕ) *approx min*, *max* : $\hat{\phi}$ (REML, MML) or mode ϕ (Bayesian) very close to respectively minimal or maximal possible value.
Note that $\hat{\phi}$ of MML equals *mode*(ϕ) of Bayesian uniform by definition.

Session	<i>m</i>	Algorithm	Average over simulations									Fraction of simulations		
			ME	RMSE	FIR(1)	FIR(2)	mean(StSE)	med(StSE)	max(MPP)	$\hat{\sigma}^2$, <i>mode</i> (σ^2)	$\hat{\phi}$, <i>mode</i> (ϕ)	ϕ_{sim} in C.I.	$\hat{\phi}$, <i>mode</i> (ϕ) <i>approx min</i>	$\hat{\phi}$, <i>mode</i> (ϕ) <i>approx max</i>
1: Standard settings	10	REML	9.45e-05 _{1.46e-03}	0.74 _{0.10}	0.69 _{0.16}	0.93 _{0.09}	1.25 _{1.75}	0.59 _{0.72}	0.01 _{0.00}	8.51	114.21 _{118.7}	-	0.164	0.260
		MML	9.45e-05 _{1.46e-03}	0.74 _{0.10}	0.75 _{0.15}	0.96 _{0.07}	0.94 _{1.32}	0.44 _{0.54}	0.01 _{0.00}	-	114.18 _{118.7}	-	0.156	0.260
		InvGam	6.69e-05 _{1.42e-03}	0.74 _{0.10}	0.73 _{0.14}	0.95 _{0.07}	0.99 _{1.06}	0.47 _{0.46}	0.01 _{0.00}	3.86	50.24 _{2.7}	1.000	0.000	0.000
		Uniform	7.28e-05 _{1.52e-03}	0.74 _{0.10}	0.71 _{0.14}	0.95 _{0.08}	1.07 _{1.23}	0.50 _{0.52}	0.01 _{0.00}	5.18	114.18 _{118.7}	0.964	0.156	0.260
		Reference	7.65e-05 _{1.32e-03}	0.74 _{0.10}	0.90 _{0.10}	0.99 _{0.03}	0.40 _{0.52}	0.18 _{0.21}	0.01 _{0.00}	3.24	18.12 _{11.3}	0.952	0.000	0.000
		Baseline	-9.65e-19 _{6.1e-17}	0.87 _{0.12}	-	-	-	-	0.00 _{0.00}	-	-	-	-	-
	15	REML	5.8e-04 _{4.82e-03}	0.61 _{0.07}	0.68 _{0.12}	0.94 _{0.06}	1.10 _{0.57}	0.51 _{0.27}	0.03 _{0.01}	8.45	110.00 _{114.3}	-	0.084	0.232
		MML	5.8e-04 _{4.82e-03}	0.61 _{0.07}	0.72 _{0.11}	0.96 _{0.05}	0.93 _{0.49}	0.43 _{0.23}	0.03 _{0.01}	-	109.92 _{114.3}	-	0.084	0.232
		InvGam	5.67e-04 _{4.82e-03}	0.61 _{0.07}	0.71 _{0.11}	0.95 _{0.05}	0.99 _{0.47}	0.46 _{0.22}	0.03 _{0.01}	4.01	50.48 _{3.4}	1.000	0.000	0.000
		Uniform	5.71e-04 _{4.8e-03}	0.61 _{0.07}	0.69 _{0.11}	0.95 _{0.05}	1.04 _{0.49}	0.48 _{0.23}	0.03 _{0.01}	5.35	109.92 _{114.3}	0.936	0.084	0.232
		Reference	5.79e-04 _{4.85e-03}	0.61 _{0.07}	0.82 _{0.11}	0.98 _{0.03}	0.59 _{0.34}	0.27 _{0.16}	0.03 _{0.01}	2.95	22.26 _{12.9}	0.920	0.000	0.000
		Baseline	1.92e-18 _{4.86e-17}	0.73 _{0.08}	-	-	-	-	0.00 _{0.00}	-	-	-	-	-
	20	REML	-2.31e-04 _{3.92e-03}	0.52 _{0.05}	0.69 _{0.10}	0.95 _{0.05}	1.05 _{0.47}	0.49 _{0.23}	0.03 _{0.01}	8.99	113.26 _{116.0}	-	0.052	0.244
		MML	-2.31e-04 _{3.92e-03}	0.52 _{0.05}	0.71 _{0.10}	0.96 _{0.04}	0.93 _{0.41}	0.44 _{0.21}	0.03 _{0.01}	-	113.25 _{116.0}	-	0.044	0.244
		InvGam	-2.41e-04 _{3.93e-03}	0.52 _{0.05}	0.70 _{0.09}	0.95 _{0.04}	0.98 _{0.39}	0.46 _{0.19}	0.03 _{0.01}	4.12	50.49 _{3.7}	1.000	0.000	0.000
		Uniform	-2.38e-04 _{3.91e-03}	0.52 _{0.05}	0.69 _{0.09}	0.95 _{0.04}	1.02 _{0.41}	0.48 _{0.20}	0.03 _{0.01}	5.68	113.25 _{116.0}	0.936	0.044	0.244
		Reference	-2.33e-04 _{3.95e-03}	0.52 _{0.05}	0.78 _{0.10}	0.98 _{0.03}	0.72 _{0.35}	0.34 _{0.18}	0.03 _{0.01}	2.80	24.30 _{13.6}	0.920	0.000	0.000
		Baseline	-2.88e-18 _{4.19e-17}	0.63 _{0.06}	-	-	-	-	0.00 _{0.00}	-	-	-	-	-
	30	REML	3.84e-04 _{4.49e-03}	0.43 _{0.04}	0.68 _{0.09}	0.95 _{0.04}	1.07 _{0.37}	0.49 _{0.18}	0.04 _{0.01}	8.40	106.66 _{111.2}	-	0.028	0.216
		MML	3.84e-04 _{4.49e-03}	0.43 _{0.04}	0.70 _{0.09}	0.95 _{0.04}	0.99 _{0.34}	0.46 _{0.17}	0.04 _{0.01}	-	106.68 _{111.2}	-	0.028	0.220
		InvGam	3.8e-04 _{4.49e-03}	0.43 _{0.04}	0.69 _{0.08}	0.95 _{0.04}	1.02 _{0.33}	0.47 _{0.17}	0.04 _{0.01}	4.11	50.67 _{4.1}	1.000	0.000	0.000
		Uniform	3.81e-04 _{4.49e-03}	0.43 _{0.04}	0.68 _{0.08}	0.95 _{0.04}	1.05 _{0.34}	0.49 _{0.17}	0.04 _{0.01}	5.85	106.68 _{111.2}	0.896	0.028	0.220
		Reference	3.84e-04 _{4.5e-03}	0.43 _{0.04}	0.72 _{0.09}	0.96 _{0.03}	0.89 _{0.31}	0.41 _{0.15}	0.04 _{0.01}	2.63	26.84 _{14.5}	0.916	0.000	0.000
		Baseline	2.09e-18 _{3.43e-17}	0.52 _{0.05}	-	-	-	-	0.00 _{0.00}	-	-	-	-	-
	50	REML	-1.42e-05 _{1.77e-03}	0.33 _{0.02}	0.69 _{0.06}	0.95 _{0.03}	1.01 _{0.28}	0.46 _{0.13}	0.04 _{0.01}	8.44	103.86 _{110.9}	-	0.012	0.212
		MML	-1.42e-05 _{1.77e-03}	0.33 _{0.02}	0.70 _{0.06}	0.96 _{0.03}	0.97 _{0.27}	0.44 _{0.13}	0.04 _{0.01}	-	103.86 _{111.0}	-	0.012	0.212
		InvGam	-1.76e-05 _{1.76e-03}	0.33 _{0.02}	0.69 _{0.06}	0.95 _{0.03}	0.99 _{0.26}	0.45 _{0.12}	0.04 _{0.01}	4.20	50.52 _{4.2}	1.000	0.000	0.000
		Uniform	-1.77e-05 _{1.78e-03}	0.33 _{0.02}	0.69 _{0.06}	0.95 _{0.03}	1.01 _{0.27}	0.46 _{0.13}	0.04 _{0.01}	6.24	103.86 _{111.0}	0.900	0.012	0.212
		Reference	-1.38e-05 _{1.75e-03}	0.33 _{0.02}	0.71 _{0.06}	0.96 _{0.03}	0.93 _{0.25}	0.42 _{0.12}	0.04 _{0.01}	2.54	27.86 _{14.3}	0.924	0.000	0.000
		Baseline	-8.36e-19 _{3.02e-17}	0.40 _{0.03}	-	-	-	-	0.00 _{0.00}	-	-	-	-	-
2: Small upper limit: $\phi_u = 100$	10	REML	8.87e-05 _{1.41e-03}	0.74 _{0.10}	0.70 _{0.16}	0.94 _{0.09}	1.19 _{1.57}	0.56 _{0.65}	0.01 _{0.00}	5.02	56.63 _{37.9}	-	0.160	0.360
		MML	8.87e-05 _{1.41e-03}	0.74 _{0.10}	0.76 _{0.15}	0.96 _{0.07}	0.89 _{1.18}	0.42 _{0.49}	0.01 _{0.00}	-	56.63 _{37.9}	-	0.156	0.360
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	6.98e-05 _{1.4e-03}	0.74 _{0.10}	0.76 _{0.13}	0.96 _{0.07}	0.87 _{0.96}	0.41 _{0.41}	0.01 _{0.00}	3.61	56.63 _{37.9}	1.000	0.156	0.360
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	15	REML	5.79e-04 _{4.83e-03}	0.61 _{0.07}	0.69 _{0.11}	0.94 _{0.06}	1.07 _{0.55}	0.50 _{0.26}	0.03 _{0.01}	4.87	56.83 _{35.5}	-	0.084	0.328
		MML	5.79e-04 _{4.83e-03}	0.61 _{0.07}	0.73 _{0.11}	0.96 _{0.05}	0.91 _{0.47}	0.42 _{0.22}	0.03 _{0.01}	-	56.84 _{35.5}	-	0.084	0.328
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	5.7e-04 _{4.83e-03}	0.61 _{0.07}	0.72 _{0.10}	0.96 _{0.04}	0.91 _{0.43}	0.42 _{0.20}	0.03 _{0.01}	3.63	56.84 _{35.5}	1.000	0.084	0.328
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	20	REML	-2.32e-04 _{3.93e-03}	0.52 _{0.05}	0.69 _{0.10}	0.95 _{0.05}	1.03 _{0.45}	0.48 _{0.23}	0.03 _{0.01}	4.90	57.60 _{35.7}	-	0.044	0.328
		MML	-2.32e-04 _{3.93e-03}	0.52 _{0.05}	0.72 _{0.10}	0.96 _{0.04}	0.91 _{0.40}	0.43 _{0.20}	0.03 _{0.01}	-	57.60 _{35.7}	-	0.044	0.336
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	-2.39e-04 _{3.93e-03}	0.52 _{0.05}	0.71 _{0.09}	0.96 _{0.04}	0.92 _{0.37}	0.43 _{0.19}	0.03 _{0.01}	3.67	57.60 _{35.7}	1.000	0.044	0.336
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	30	REML	3.84e-04 _{4.49e-03}	0.43 _{0.04}	0.68 _{0.08}	0.95 _{0.04}	1.05 _{0.36}	0.49 _{0.18}	0.04 _{0.01}	4.68	56.92 _{34.9}	-	0.028	0.332
		MML	3.84e-04 _{4.49e-03}	0.43 _{0.04}	0.70 _{0.08}	0.95 _{0.04}	0.98 _{0.33}	0.45 _{0.17}	0.04 _{0.01}	-	56.94 _{34.9}	-	0.028	0.332
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	3.81e-04 _{4.49e-03}	0.43 _{0.04}	0.70 _{0.08}	0.95 _{0.04}	0.99 _{0.32}	0.46 _{0.16}	0.04 _{0.01}	3.66	56.94 _{34.9}	1.000	0.028	0.332
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	50	REML	-1.43e-05 _{1.76e-03}	0.33 _{0.02}	0.69 _{0.06}	0.95 _{0.03}	1.01 _{0.28}	0.46 _{0.13}	0.04 _{0.01}	4.65	55.76 _{34.3}	-	0.012	0.300
		MML	-1.43e-05 _{1.76e-03}	0.33 _{0.02}	0.70 _{0.06}	0.96 _{0.03}	0.97 _{0.26}	0.44 _{0.12}	0.04 _{0.01}	-	55.75 _{34.3}	-	0.012	0.304
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	-1.65e-05 _{1.76e-03}	0.33 _{0.02}	0.70 _{0.06}	0.96 _{0.03}	0.98 _{0.26}	0.44 _{0.12}	0.04 _{0.01}	3.80	55.75 _{34.3}	1.000	0.012	0.304
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-

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Session	m	Algorithm	ME	RMSE	FIR(1)	FIR(2)	mean(StSE)	med(StSE)	max(MPP)	$\hat{\sigma}^2, mode(\sigma^2)$	$\hat{\phi}, mode(\phi)$	ϕ_{sim} in C.I.	$\hat{\phi}, mode(\phi) \approx min$	$\hat{\phi}, mode(\phi) \approx max$
3: Large upper limit: $\phi_u = 2,000$	10	REML	9.55e-05 ^{1.47e-03}	0.74 ^{0.10}	0.69 ^{0.16}	0.93 ^{0.09}	1.26 ^{1.79}	0.59 ^{0.74}	0.01 ^{0.00}	34.27	526.47 ^{833.6}	-	0.208	0.240
		MML	9.59e-05 ^{1.47e-03}	0.74 ^{0.10}	0.75 ^{0.15}	0.96 ^{0.07}	0.95 ^{1.34}	0.44 ^{0.55}	0.01 ^{0.00}	-	526.54 ^{833.6}	-	0.160	0.240
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	7.32e-05 ^{1.58e-03}	0.74 ^{0.10}	0.69 ^{0.14}	0.94 ^{0.08}	1.20 ^{1.39}	0.56 ^{0.58}	0.01 ^{0.00}	10.48	526.54 ^{833.6}	0.176	0.160	0.240
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	15	REML	5.8e-04 ^{4.82e-03}	0.61 ^{0.07}	0.68 ^{0.12}	0.94 ^{0.06}	1.10 ^{0.58}	0.51 ^{0.28}	0.03 ^{0.01}	32.44	456.29 ^{779.4}	-	0.120	0.200
		MML	5.8e-04 ^{4.82e-03}	0.61 ^{0.07}	0.72 ^{0.11}	0.96 ^{0.05}	0.93 ^{0.49}	0.43 ^{0.23}	0.03 ^{0.01}	-	456.37 ^{779.4}	-	0.084	0.200
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	5.7e-04 ^{4.79e-03}	0.61 ^{0.07}	0.68 ^{0.11}	0.94 ^{0.06}	1.11 ^{0.52}	0.52 ^{0.25}	0.03 ^{0.01}	12.32	456.37 ^{779.4}	0.172	0.084	0.200
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	20	REML	-2.31e-04 ^{3.92e-03}	0.52 ^{0.05}	0.69 ^{0.10}	0.95 ^{0.05}	1.05 ^{0.47}	0.49 ^{0.23}	0.03 ^{0.01}	33.01	448.52 ^{764.5}	-	0.100	0.188
		MML	-2.31e-04 ^{3.92e-03}	0.52 ^{0.05}	0.71 ^{0.10}	0.96 ^{0.04}	0.93 ^{0.42}	0.44 ^{0.21}	0.03 ^{0.01}	-	448.17 ^{764.3}	-	0.044	0.188
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	-2.39e-04 ^{3.89e-03}	0.52 ^{0.05}	0.68 ^{0.09}	0.94 ^{0.05}	1.07 ^{0.43}	0.50 ^{0.21}	0.03 ^{0.01}	13.85	448.17 ^{764.3}	0.220	0.044	0.188
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	30	REML	3.84e-04 ^{4.49e-03}	0.43 ^{0.04}	0.68 ^{0.09}	0.94 ^{0.04}	1.07 ^{0.37}	0.50 ^{0.18}	0.04 ^{0.01}	32.63	427.78 ^{748.6}	-	0.052	0.172
		MML	3.84e-04 ^{4.49e-03}	0.43 ^{0.04}	0.70 ^{0.09}	0.95 ^{0.04}	0.99 ^{0.34}	0.46 ^{0.17}	0.04 ^{0.01}	-	428.01 ^{748.8}	-	0.028	0.172
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	3.8e-04 ^{4.49e-03}	0.43 ^{0.04}	0.67 ^{0.08}	0.94 ^{0.04}	1.09 ^{0.36}	0.50 ^{0.18}	0.04 ^{0.01}	15.80	428.01 ^{748.8}	0.228	0.028	0.172
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
	50	REML	-1.43e-05 ^{1.77e-03}	0.33 ^{0.02}	0.69 ^{0.06}	0.95 ^{0.03}	1.02 ^{0.28}	0.46 ^{0.13}	0.04 ^{0.01}	30.62	390.43 ^{721.9}	-	0.052	0.164
		MML	-1.42e-05 ^{1.77e-03}	0.33 ^{0.02}	0.70 ^{0.06}	0.96 ^{0.03}	0.97 ^{0.27}	0.44 ^{0.13}	0.04 ^{0.01}	-	390.39 ^{721.9}	-	0.012	0.164
		InvGam	-	-	-	-	-	-	-	-	-	-	-	-
		Uniform	-1.87e-05 ^{1.79e-03}	0.33 ^{0.02}	0.68 ^{0.06}	0.95 ^{0.03}	1.03 ^{0.27}	0.47 ^{0.13}	0.04 ^{0.01}	17.30	390.39 ^{721.9}	0.256	0.012	0.164
		Reference	-	-	-	-	-	-	-	-	-	-	-	-
		Baseline	-	-	-	-	-	-	-	-	-	-	-	-
4: Trend is Gaussian Random field	10	REML	5.74e-05 ^{1.32e-03}	0.81 ^{0.14}	0.68 ^{0.17}	0.92 ^{0.09}	1.29 ^{1.37}	0.62 ^{0.60}	0.01 ^{0.00}	6.44	96.39 ^{103.6}	-	0.112	0.156
		MML	5.73e-05 ^{1.32e-03}	0.81 ^{0.14}	0.74 ^{0.16}	0.95 ^{0.07}	0.97 ^{1.03}	0.47 ^{0.45}	0.01 ^{0.00}	-	96.38 ^{103.7}	-	0.104	0.160
		InvGam	5.35e-05 ^{1.31e-03}	0.80 ^{0.14}	0.73 ^{0.14}	0.96 ^{0.07}	0.96 ^{0.76}	0.46 ^{0.37}	0.01 ^{0.00}	3.86	50.42 ^{3.4}	1.000	0.000	0.000
		Uniform	5.39e-05 ^{1.41e-03}	0.80 ^{0.14}	0.70 ^{0.14}	0.95 ^{0.07}	1.07 ^{0.95}	0.52 ^{0.44}	0.01 ^{0.00}	4.97	96.38 ^{103.7}	0.940	0.104	0.160
		Reference	5.96e-05 ^{1.25e-03}	0.81 ^{0.14}	0.87 ^{0.12}	0.99 ^{0.04}	0.51 ^{0.66}	0.24 ^{0.27}	0.01 ^{0.00}	3.61	24.01 ^{17.5}	0.988	0.000	0.000
		Baseline	-6.74e-19 ^{4.22e-17}	1.42 ^{0.19}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	15	REML	5.78e-04 ^{4.62e-03}	0.64 ^{0.09}	0.68 ^{0.13}	0.93 ^{0.07}	1.17 ^{0.82}	0.55 ^{0.37}	0.03 ^{0.01}	6.35	84.92 ^{87.3}	-	0.052	0.100
		MML	5.78e-04 ^{4.62e-03}	0.64 ^{0.09}	0.72 ^{0.12}	0.95 ^{0.06}	0.99 ^{0.70}	0.47 ^{0.32}	0.03 ^{0.01}	-	84.91 ^{87.2}	-	0.052	0.100
		InvGam	5.9e-04 ^{4.6e-03}	0.64 ^{0.08}	0.71 ^{0.11}	0.95 ^{0.06}	1.00 ^{0.64}	0.47 ^{0.30}	0.03 ^{0.01}	4.04	50.52 ^{4.0}	1.000	0.000	0.000
		Uniform	5.87e-04 ^{4.58e-03}	0.64 ^{0.08}	0.69 ^{0.11}	0.94 ^{0.06}	1.08 ^{0.70}	0.51 ^{0.32}	0.03 ^{0.01}	5.10	84.91 ^{87.2}	0.920	0.052	0.100
		Reference	5.76e-04 ^{4.64e-03}	0.64 ^{0.09}	0.79 ^{0.13}	0.97 ^{0.05}	0.72 ^{0.56}	0.34 ^{0.25}	0.03 ^{0.01}	3.35	28.17 ^{18.5}	0.968	0.000	0.000
		Baseline	-1.27e-19 ^{3.6e-17}	1.20 ^{0.14}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	20	REML	-2.59e-04 ^{3.79e-03}	0.54 ^{0.06}	0.68 ^{0.10}	0.94 ^{0.05}	1.07 ^{0.46}	0.51 ^{0.24}	0.03 ^{0.01}	6.48	84.53 ^{87.6}	-	0.020	0.100
		MML	-2.59e-04 ^{3.79e-03}	0.54 ^{0.06}	0.71 ^{0.10}	0.96 ^{0.04}	0.95 ^{0.41}	0.45 ^{0.21}	0.03 ^{0.01}	-	84.52 ^{87.7}	-	0.020	0.104
		InvGam	-2.73e-04 ^{3.8e-03}	0.54 ^{0.06}	0.70 ^{0.09}	0.96 ^{0.04}	0.97 ^{0.37}	0.46 ^{0.19}	0.03 ^{0.01}	4.16	50.69 ^{4.6}	1.000	0.000	0.000
		Uniform	-2.65e-04 ^{3.78e-03}	0.54 ^{0.06}	0.69 ^{0.10}	0.95 ^{0.04}	1.02 ^{0.40}	0.49 ^{0.21}	0.03 ^{0.01}	5.24	84.52 ^{87.7}	0.900	0.020	0.104
		Reference	-2.64e-04 ^{3.79e-03}	0.54 ^{0.06}	0.75 ^{0.11}	0.97 ^{0.04}	0.79 ^{0.38}	0.38 ^{0.19}	0.03 ^{0.01}	3.22	30.34 ^{19.5}	0.940	0.000	0.000
		Baseline	3.34e-18 ^{3.19e-17}	1.06 ^{0.11}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	30	REML	3.7e-04 ^{4.41e-03}	0.44 ^{0.04}	0.67 ^{0.08}	0.94 ^{0.04}	1.10 ^{0.37}	0.51 ^{0.18}	0.04 ^{0.01}	6.41	83.94 ^{82.5}	-	0.008	0.084
		MML	3.71e-04 ^{4.41e-03}	0.44 ^{0.04}	0.69 ^{0.08}	0.95 ^{0.04}	1.02 ^{0.35}	0.47 ^{0.17}	0.04 ^{0.01}	-	83.91 ^{82.4}	-	0.008	0.084
		InvGam	3.67e-04 ^{4.4e-03}	0.44 ^{0.04}	0.69 ^{0.08}	0.95 ^{0.03}	1.02 ^{0.32}	0.47 ^{0.16}	0.04 ^{0.01}	4.13	51.04 ^{5.2}	1.000	0.000	0.000
		Uniform	3.71e-04 ^{4.4e-03}	0.44 ^{0.04}	0.68 ^{0.08}	0.94 ^{0.04}	1.07 ^{0.34}	0.50 ^{0.17}	0.04 ^{0.01}	5.42	83.91 ^{82.4}	0.884	0.008	0.084
		Reference	3.7e-04 ^{4.41e-03}	0.44 ^{0.04}	0.71 ^{0.08}	0.96 ^{0.03}	0.95 ^{0.33}	0.44 ^{0.16}	0.04 ^{0.01}	3.07	33.57 ^{19.5}	0.940	0.000	0.000
		Baseline	9.73e-19 ^{2.85e-17}	0.88 ^{0.07}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	50	REML	-2.24e-05 ^{1.75e-03}	0.33 ^{0.02}	0.68 ^{0.06}	0.95 ^{0.03}	1.03 ^{0.28}	0.47 ^{0.13}	0.04 ^{0.01}	6.48	79.67 ^{77.0}	-	0.000	0.056
		MML	-2.24e-05 ^{1.75e-03}	0.33 ^{0.02}	0.69 ^{0.06}	0.95 ^{0.03}	0.99 ^{0.27}	0.45 ^{0.12}	0.04 ^{0.01}	-	79.71 ^{77.1}	-	0.000	0.060
		InvGam	-2.4e-05 ^{1.74e-03}	0.33 ^{0.02}	0.69 ^{0.06}	0.95 ^{0.03}	1.00 ^{0.26}	0.45 ^{0.12}	0.04 ^{0.01}	4.24	51.02 ^{5.2}	1.000	0.000	0.000
		Uniform	-2.5e-05 ^{1.76e-03}	0.33 ^{0.02}	0.69 ^{0.06}	0.95 ^{0.03}	1.02 ^{0.27}	0.46 ^{0.13}	0.04 ^{0.01}	5.66	79.71 ^{77.1}	0.860	0.000	0.060
		Reference	-2.19e-05 ^{1.74e-03}	0.33 ^{0.02}	0.70 ^{0.06}	0.96 ^{0.03}	0.96 ^{0.26}	0.43 ^{0.12}	0.04 ^{0.01}	3.05	34.30 ^{17.5}	0.964	0.000	0.000
		Baseline	1.59e-18 ^{2.2e-17}	0.69 ^{0.05}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-

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Session	m	Algorithm	ME	RMSE	FIR(1)	FIR(2)	mean(StSE)	med(StSE)	max(MPP)	$\hat{\sigma}^2, mode(\sigma^2)$	$\hat{\phi}, mode(\phi)$	ϕ_{sim} in C.I.	$\hat{\phi}, mode(\phi) \approx min$	$\hat{\phi}, mode(\phi) \approx max$
5: No trend	10	REML	9.71e-05 ^{1.42e-03}	0.74 ^{0.10}	0.69 ^{0.16}	0.93 ^{0.09}	1.26 ^{1.56}	0.59 ^{0.65}	0.01 ^{0.00}	6.47	92.80 ^{97.9}	-	0.088	0.144
		MML	9.74e-05 ^{1.42e-03}	0.74 ^{0.10}	0.74 ^{0.15}	0.95 ^{0.07}	0.98 ^{1.21}	0.46 ^{0.51}	0.01 ^{0.00}	-	92.84 ^{98.0}	-	0.084	0.144
		InvGam	6.7e-05 ^{1.42e-03}	0.74 ^{0.10}	0.73 ^{0.13}	0.96 ^{0.07}	0.97 ^{0.85}	0.46 ^{0.40}	0.01 ^{0.00}	3.98	50.56 ^{3.9}	1.000	0.000	0.000
		Uniform	7.48e-05 ^{1.51e-03}	0.74 ^{0.10}	0.70 ^{0.13}	0.95 ^{0.08}	1.09 ^{1.11}	0.51 ^{0.48}	0.01 ^{0.00}	5.14	92.84 ^{98.0}	0.904	0.084	0.144
		Reference	8.21e-05 ^{1.37e-03}	0.74 ^{0.10}	0.86 ^{0.13}	0.98 ^{0.05}	0.54 ^{0.86}	0.25 ^{0.35}	0.01 ^{0.00}	3.73	27.02 ^{19.0}	0.980	0.000	0.000
		Baseline	3.91e-19 ^{3.08e-17}	0.86 ^{0.12}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	15	REML	5.83e-04 ^{4.83e-03}	0.61 ^{0.07}	0.68 ^{0.12}	0.94 ^{0.06}	1.13 ^{0.58}	0.53 ^{0.27}	0.03 ^{0.01}	6.46	87.37 ^{88.8}	-	0.044	0.112
		MML	5.83e-04 ^{4.83e-03}	0.61 ^{0.07}	0.71 ^{0.11}	0.95 ^{0.05}	0.97 ^{0.49}	0.45 ^{0.23}	0.03 ^{0.01}	-	87.42 ^{88.8}	-	0.044	0.112
		InvGam	5.67e-04 ^{4.82e-03}	0.61 ^{0.07}	0.70 ^{0.10}	0.95 ^{0.05}	0.98 ^{0.43}	0.45 ^{0.20}	0.03 ^{0.01}	4.09	50.90 ^{4.6}	1.000	0.000	0.000
		Uniform	5.73e-04 ^{4.81e-03}	0.61 ^{0.07}	0.69 ^{0.10}	0.95 ^{0.05}	1.05 ^{0.48}	0.49 ^{0.23}	0.03 ^{0.01}	5.23	87.42 ^{88.8}	0.876	0.044	0.112
		Reference	5.8e-04 ^{4.84e-03}	0.61 ^{0.07}	0.78 ^{0.12}	0.97 ^{0.04}	0.72 ^{0.41}	0.33 ^{0.20}	0.03 ^{0.01}	3.46	30.58 ^{19.9}	0.956	0.000	0.000
		Baseline	-1.01e-18 ^{2.55e-17}	0.72 ^{0.08}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	20	REML	-2.29e-04 ^{3.93e-03}	0.52 ^{0.05}	0.68 ^{0.10}	0.94 ^{0.05}	1.07 ^{0.47}	0.50 ^{0.23}	0.03 ^{0.01}	6.57	85.86 ^{88.4}	-	0.024	0.100
		MML	-2.29e-04 ^{3.93e-03}	0.52 ^{0.05}	0.71 ^{0.10}	0.96 ^{0.04}	0.96 ^{0.42}	0.45 ^{0.21}	0.03 ^{0.01}	-	85.81 ^{88.3}	-	0.020	0.100
		InvGam	-2.41e-04 ^{3.93e-03}	0.52 ^{0.05}	0.70 ^{0.09}	0.95 ^{0.04}	0.97 ^{0.37}	0.46 ^{0.19}	0.03 ^{0.01}	4.18	50.83 ^{4.9}	1.000	0.000	0.000
		Uniform	-2.37e-04 ^{3.91e-03}	0.52 ^{0.05}	0.69 ^{0.09}	0.95 ^{0.04}	1.03 ^{0.41}	0.48 ^{0.20}	0.03 ^{0.01}	5.34	85.81 ^{88.3}	0.896	0.020	0.100
		Reference	-2.31e-04 ^{3.94e-03}	0.52 ^{0.05}	0.75 ^{0.10}	0.97 ^{0.04}	0.82 ^{0.39}	0.39 ^{0.19}	0.03 ^{0.01}	3.31	32.08 ^{19.7}	0.936	0.000	0.000
		Baseline	4.01e-19 ^{2.24e-17}	0.63 ^{0.06}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	30	REML	3.84e-04 ^{4.49e-03}	0.43 ^{0.04}	0.68 ^{0.09}	0.94 ^{0.04}	1.09 ^{0.38}	0.50 ^{0.19}	0.04 ^{0.01}	6.50	84.58 ^{82.7}	-	0.008	0.084
		MML	3.85e-04 ^{4.49e-03}	0.43 ^{0.04}	0.69 ^{0.09}	0.95 ^{0.04}	1.01 ^{0.35}	0.47 ^{0.18}	0.04 ^{0.01}	-	84.59 ^{82.9}	-	0.008	0.084
		InvGam	3.8e-04 ^{4.49e-03}	0.43 ^{0.04}	0.69 ^{0.08}	0.95 ^{0.04}	1.02 ^{0.32}	0.47 ^{0.16}	0.04 ^{0.01}	4.17	51.12 ^{5.4}	1.000	0.000	0.000
		Uniform	3.81e-04 ^{4.49e-03}	0.43 ^{0.04}	0.68 ^{0.08}	0.95 ^{0.04}	1.06 ^{0.35}	0.49 ^{0.18}	0.04 ^{0.01}	5.50	84.59 ^{82.9}	0.868	0.008	0.084
		Reference	3.84e-04 ^{4.49e-03}	0.43 ^{0.04}	0.71 ^{0.09}	0.96 ^{0.04}	0.95 ^{0.33}	0.44 ^{0.17}	0.04 ^{0.01}	3.15	34.43 ^{19.7}	0.948	0.000	0.000
		Baseline	1.04e-19 ^{1.83e-17}	0.52 ^{0.05}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	50	REML	-1.48e-05 ^{1.77e-03}	0.33 ^{0.02}	0.69 ^{0.06}	0.95 ^{0.03}	1.03 ^{0.28}	0.47 ^{0.13}	0.04 ^{0.01}	6.51	80.29 ^{78.1}	-	0.000	0.068
		MML	-1.47e-05 ^{1.77e-03}	0.33 ^{0.02}	0.70 ^{0.06}	0.95 ^{0.03}	0.98 ^{0.27}	0.45 ^{0.12}	0.04 ^{0.01}	-	80.27 ^{78.1}	-	0.000	0.068
		InvGam	-1.76e-05 ^{1.76e-03}	0.33 ^{0.02}	0.69 ^{0.06}	0.95 ^{0.03}	0.99 ^{0.26}	0.45 ^{0.12}	0.04 ^{0.01}	4.25	51.18 ^{5.4}	1.000	0.000	0.000
		Uniform	-1.76e-05 ^{1.78e-03}	0.33 ^{0.02}	0.69 ^{0.06}	0.95 ^{0.03}	1.02 ^{0.27}	0.46 ^{0.13}	0.04 ^{0.01}	5.71	80.27 ^{78.1}	0.856	0.000	0.068
		Reference	-1.49e-05 ^{1.76e-03}	0.33 ^{0.02}	0.70 ^{0.06}	0.96 ^{0.03}	0.96 ^{0.26}	0.43 ^{0.12}	0.04 ^{0.01}	3.09	34.82 ^{18.0}	0.948	0.000	0.000
		Baseline	1.68e-18 ^{1.52e-17}	0.40 ^{0.03}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
6: Matérn simulation, smooth; $V_{sim} = 2$	10	REML	1.77e-04 ^{1.57e-03}	0.18 ^{0.05}	0.98 ^{0.05}	1.00 ^{0.01}	0.14 ^{0.14}	0.06 ^{0.06}	0.01 ^{0.00}	9.20	207.62 ^{118.0}	-	0.024	0.576
		MML	1.77e-04 ^{1.57e-03}	0.18 ^{0.05}	0.99 ^{0.04}	1.00 ^{0.00}	0.10 ^{0.11}	0.04 ^{0.05}	0.01 ^{0.00}	-	207.62 ^{118.0}	-	0.020	0.576
		InvGam	1.55e-04 ^{1.44e-03}	0.18 ^{0.05}	0.99 ^{0.04}	1.00 ^{0.00}	0.10 ^{0.11}	0.04 ^{0.05}	0.01 ^{0.00}	2.53	52.60 ^{3.2}	1.000	0.000	0.000
		Uniform	1.66e-04 ^{1.54e-03}	0.18 ^{0.05}	0.99 ^{0.04}	1.00 ^{0.00}	0.10 ^{0.11}	0.05 ^{0.05}	0.01 ^{0.00}	4.34	207.62 ^{118.0}	0.876	0.020	0.576
		Reference	1.64e-04 ^{1.42e-03}	0.19 ^{0.06}	1.00 ^{0.01}	1.00 ^{0.00}	0.05 ^{0.05}	0.02 ^{0.02}	0.01 ^{0.00}	2.44	27.82 ^{13.0}	1.000	0.000	0.000
		Baseline	1.81e-18 ^{6.28e-17}	0.46 ^{0.10}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	15	REML	2.52e-04 ^{2.83e-03}	0.09 ^{0.02}	1.00 ^{0.01}	1.00 ^{0.00}	0.07 ^{0.05}	0.03 ^{0.02}	0.02 ^{0.01}	7.45	249.96 ^{93.1}	-	0.000	0.740
		MML	2.52e-04 ^{2.83e-03}	0.09 ^{0.02}	1.00 ^{0.01}	1.00 ^{0.00}	0.06 ^{0.05}	0.02 ^{0.01}	0.02 ^{0.01}	-	250.04 ^{93.0}	-	0.000	0.748
		InvGam	2.45e-04 ^{2.85e-03}	0.09 ^{0.03}	1.00 ^{0.01}	1.00 ^{0.00}	0.05 ^{0.04}	0.02 ^{0.01}	0.02 ^{0.01}	1.93	56.18 ^{4.7}	1.000	0.000	0.000
		Uniform	2.5e-04 ^{2.83e-03}	0.09 ^{0.02}	1.00 ^{0.01}	1.00 ^{0.00}	0.06 ^{0.05}	0.02 ^{0.01}	0.02 ^{0.01}	3.90	250.04 ^{93.0}	0.516	0.000	0.748
		Reference	2.52e-04 ^{2.85e-03}	0.09 ^{0.03}	1.00 ^{0.01}	1.00 ^{0.00}	0.05 ^{0.03}	0.02 ^{0.01}	0.02 ^{0.01}	1.93	45.68 ^{19.0}	0.988	0.000	0.000
		Baseline	3.36e-18 ^{4.54e-17}	0.32 ^{0.07}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	20	REML	-1.16e-04 ^{2.53e-03}	0.05 ^{0.01}	1.00 ^{0.01}	1.00 ^{0.00}	0.04 ^{0.03}	0.01 ^{0.01}	0.01 ^{0.01}	6.08	272.96 ^{68.7}	-	0.000	0.848
		MML	-1.16e-04 ^{2.53e-03}	0.05 ^{0.01}	1.00 ^{0.01}	1.00 ^{0.00}	0.04 ^{0.03}	0.01 ^{0.01}	0.01 ^{0.01}	-	272.93 ^{68.7}	-	0.000	0.848
		InvGam	-1.2e-04 ^{2.56e-03}	0.06 ^{0.02}	1.00 ^{0.01}	1.00 ^{0.00}	0.03 ^{0.02}	0.01 ^{0.01}	0.01 ^{0.01}	1.56	59.98 ^{6.2}	1.000	0.000	0.000
		Uniform	-1.17e-04 ^{2.53e-03}	0.05 ^{0.01}	1.00 ^{0.01}	1.00 ^{0.00}	0.04 ^{0.03}	0.01 ^{0.01}	0.01 ^{0.01}	3.46	272.93 ^{68.7}	0.276	0.000	0.848
		Reference	-1.15e-04 ^{2.54e-03}	0.05 ^{0.02}	1.00 ^{0.01}	1.00 ^{0.00}	0.03 ^{0.02}	0.01 ^{0.01}	0.01 ^{0.01}	1.68	60.52 ^{23.2}	0.920	0.000	0.000
		Baseline												

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Session	m	Algorithm	ME	RMSE	FIR(1)	FIR(2)	mean(StSE)	med(StSE)	max(MPP)	$\hat{\sigma}^2, mode(\sigma^2)$	$\hat{\phi}, mode(\phi)$	ϕ_{sim} in C.I.	$\hat{\phi}, mode(\phi) \approx min$	$\hat{\phi}, mode(\phi) \approx max$
7: Matérn simulation, unsmooth; $v_{sim} = .25$	10	REML	7.29e-05 ^{1.3e-03}	1.16 ^{0.10}	0.52 ^{0.15}	0.81 ^{0.14}	2.78 ^{2.49}	1.27 ^{1.11}	0.01 ^{0.00}	7.28	95.53 ^{115.0}	-	0.236	0.216
		MML	7.29e-05 ^{1.3e-03}	1.16 ^{0.10}	0.58 ^{0.16}	0.86 ^{0.13}	2.09 ^{1.87}	0.95 ^{0.83}	0.01 ^{0.00}	-	95.54 ^{115.1}	-	0.224	0.220
		InvGam	4.82e-05 ^{1.31e-03}	1.16 ^{0.10}	0.52 ^{0.12}	0.83 ^{0.11}	2.42 ^{1.76}	1.10 ^{0.79}	0.01 ^{0.00}	3.77	49.76 ^{2.5}	1.000	0.000	0.000
		Uniform	5.25e-05 ^{1.39e-03}	1.16 ^{0.10}	0.51 ^{0.12}	0.82 ^{0.12}	2.56 ^{1.91}	1.17 ^{0.86}	0.01 ^{0.00}	4.59	95.54 ^{115.1}	0.984	0.224	0.220
		Reference	5.45e-05 ^{1.18e-03}	1.15 ^{0.10}	0.76 ^{0.14}	0.96 ^{0.07}	0.89 ^{0.78}	0.41 ^{0.35}	0.01 ^{0.01}	3.02	15.59 ^{10.4}	0.944	0.000	0.000
		Baseline	6.17e-19 ^{6.02e-17}	1.23 ^{0.11}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	15	REML	4.72e-04 ^{5.23e-03}	1.05 ^{0.08}	0.50 ^{0.11}	0.80 ^{0.11}	2.63 ^{1.50}	1.20 ^{0.70}	0.03 ^{0.01}	6.62	71.58 ^{96.3}	-	0.156	0.136
		MML	4.72e-04 ^{5.23e-03}	1.05 ^{0.08}	0.53 ^{0.11}	0.84 ^{0.10}	2.22 ^{1.27}	1.02 ^{0.59}	0.03 ^{0.01}	-	71.60 ^{96.4}	-	0.148	0.136
		InvGam	4.67e-04 ^{5.21e-03}	1.05 ^{0.08}	0.49 ^{0.09}	0.80 ^{0.09}	2.61 ^{1.20}	1.19 ^{0.56}	0.03 ^{0.01}	4.45	49.13 ^{2.8}	1.000	0.000	0.000
		Uniform	4.7e-04 ^{5.2e-03}	1.05 ^{0.08}	0.48 ^{0.09}	0.80 ^{0.09}	2.67 ^{1.27}	1.22 ^{0.59}	0.03 ^{0.01}	4.67	71.60 ^{96.4}	0.972	0.148	0.136
		Reference	4.74e-04 ^{5.25e-03}	1.05 ^{0.08}	0.66 ^{0.14}	0.92 ^{0.08}	1.34 ^{0.91}	0.62 ^{0.42}	0.03 ^{0.01}	2.96	17.18 ^{10.6}	0.836	0.000	0.000
		Baseline	-5.07e-18 ^{4.61e-17}	1.12 ^{0.09}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	20	REML	-2.71e-04 ^{4.56e-03}	0.97 ^{0.06}	0.50 ^{0.10}	0.81 ^{0.10}	2.57 ^{1.40}	1.18 ^{0.66}	0.03 ^{0.01}	6.20	58.51 ^{82.4}	-	0.176	0.088
		MML	-2.71e-04 ^{4.56e-03}	0.97 ^{0.06}	0.52 ^{0.10}	0.83 ^{0.09}	2.29 ^{1.24}	1.05 ^{0.59}	0.03 ^{0.01}	-	58.52 ^{82.4}	-	0.164	0.088
		InvGam	-2.79e-04 ^{4.54e-03}	0.97 ^{0.06}	0.48 ^{0.08}	0.79 ^{0.08}	2.67 ^{1.14}	1.22 ^{0.54}	0.03 ^{0.01}	5.14	48.62 ^{2.7}	1.000	0.000	0.000
		Uniform	-2.76e-04 ^{4.53e-03}	0.97 ^{0.06}	0.48 ^{0.08}	0.79 ^{0.09}	2.70 ^{1.21}	1.23 ^{0.58}	0.03 ^{0.01}	4.83	58.52 ^{82.4}	0.980	0.164	0.088
		Reference	-2.74e-04 ^{4.59e-03}	0.97 ^{0.06}	0.60 ^{0.14}	0.88 ^{0.09}	1.68 ^{1.09}	0.77 ^{0.51}	0.04 ^{0.01}	2.95	17.12 ^{10.2}	0.756	0.000	0.000
		Baseline	-2.01e-18 ^{4.02e-17}	1.03 ^{0.07}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	30	REML	2.05e-04 ^{5.98e-03}	0.87 ^{0.05}	0.49 ^{0.08}	0.80 ^{0.08}	2.55 ^{0.96}	1.16 ^{0.44}	0.05 ^{0.01}	5.67	45.05 ^{72.2}	-	0.172	0.064
		MML	2.05e-04 ^{5.98e-03}	0.87 ^{0.05}	0.50 ^{0.08}	0.82 ^{0.08}	2.37 ^{0.89}	1.08 ^{0.41}	0.05 ^{0.01}	-	45.06 ^{72.2}	-	0.164	0.064
		InvGam	2.01e-04 ^{5.97e-03}	0.87 ^{0.05}	0.47 ^{0.07}	0.78 ^{0.07}	2.76 ^{0.87}	1.26 ^{0.41}	0.05 ^{0.01}	6.10	47.88 ^{2.8}	1.000	0.000	0.000
		Uniform	2.02e-04 ^{5.97e-03}	0.87 ^{0.05}	0.47 ^{0.07}	0.78 ^{0.07}	2.74 ^{0.90}	1.25 ^{0.42}	0.05 ^{0.01}	4.76	45.06 ^{72.2}	0.988	0.164	0.064
		Reference	2.03e-04 ^{5.97e-03}	0.87 ^{0.05}	0.54 ^{0.10}	0.85 ^{0.08}	2.05 ^{0.87}	0.93 ^{0.40}	0.05 ^{0.01}	2.90	16.34 ^{9.6}	0.648	0.000	0.000
		Baseline	4.88e-19 ^{3.28e-17}	0.93 ^{0.06}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	50	REML	-3.35e-05 ^{1.69e-03}	0.76 ^{0.03}	0.48 ^{0.06}	0.80 ^{0.06}	2.51 ^{0.73}	1.14 ^{0.35}	0.06 ^{0.01}	4.67	26.80 ^{40.0}	-	0.316	0.016
		MML	-3.35e-05 ^{1.69e-03}	0.76 ^{0.03}	0.49 ^{0.06}	0.81 ^{0.06}	2.41 ^{0.70}	1.09 ^{0.34}	0.06 ^{0.01}	-	26.79 ^{39.9}	-	0.284	0.016
		InvGam	-4.51e-05 ^{1.74e-03}	0.76 ^{0.03}	0.46 ^{0.05}	0.78 ^{0.06}	2.73 ^{0.69}	1.24 ^{0.34}	0.06 ^{0.01}	7.76	46.66 ^{2.0}	1.000	0.000	0.000
		Uniform	-4.36e-05 ^{1.74e-03}	0.76 ^{0.03}	0.47 ^{0.05}	0.78 ^{0.06}	2.68 ^{0.70}	1.21 ^{0.34}	0.06 ^{0.01}	4.47	26.79 ^{39.9}	1.000	0.284	0.016
		Reference	-3.44e-05 ^{1.67e-03}	0.76 ^{0.03}	0.51 ^{0.07}	0.82 ^{0.06}	2.25 ^{0.70}	1.02 ^{0.34}	0.06 ^{0.01}	2.91	14.04 ^{7.1}	0.496	0.000	0.000
		Baseline	6.69e-19 ^{2.71e-17}	0.82 ^{0.04}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
8: Added nugget: $\tau^2 = 1$	10	REML	9.3e-05 ^{1.46e-03}	1.24 ^{0.07}	0.47 ^{0.14}	0.77 ^{0.14}	3.45 ^{3.54}	1.58 ^{1.67}	0.01 ^{0.00}	8.47	111.41 ^{118.0}	-	0.164	0.252
		MML	9.3e-05 ^{1.46e-03}	1.24 ^{0.07}	0.53 ^{0.14}	0.82 ^{0.13}	2.59 ^{2.66}	1.18 ^{1.25}	0.01 ^{0.00}	-	111.39 ^{118.0}	-	0.160	0.252
		InvGam	6.62e-05 ^{1.42e-03}	1.24 ^{0.07}	0.50 ^{0.11}	0.80 ^{0.12}	2.78 ^{2.21}	1.27 ^{1.04}	0.01 ^{0.00}	3.90	50.22 ^{2.7}	1.000	0.000	0.000
		Uniform	7.18e-05 ^{1.52e-03}	1.24 ^{0.07}	0.48 ^{0.11}	0.79 ^{0.12}	2.99 ^{2.49}	1.37 ^{1.18}	0.01 ^{0.00}	5.22	111.39 ^{118.0}	0.964	0.160	0.252
		Reference	7.38e-05 ^{1.32e-03}	1.24 ^{0.07}	0.71 ^{0.14}	0.94 ^{0.08}	1.09 ^{1.05}	0.50 ^{0.51}	0.01 ^{0.00}	3.27	18.10 ^{11.2}	0.964	0.000	0.000
		Baseline	8.14e-19 ^{6.41e-17}	1.33 ^{0.09}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	15	REML	5.14e-04 ^{4.91e-03}	1.16 ^{0.05}	0.41 ^{0.09}	0.71 ^{0.11}	4.04 ^{2.00}	1.81 ^{0.91}	0.03 ^{0.01}	8.52	107.66 ^{112.5}	-	0.096	0.216
		MML	5.15e-04 ^{4.91e-03}	1.16 ^{0.05}	0.44 ^{0.09}	0.75 ^{0.11}	3.42 ^{1.69}	1.53 ^{0.77}	0.03 ^{0.01}	-	107.75 ^{112.6}	-	0.096	0.216
		InvGam	5.05e-04 ^{4.91e-03}	1.16 ^{0.05}	0.42 ^{0.08}	0.73 ^{0.09}	3.64 ^{1.55}	1.63 ^{0.70}	0.03 ^{0.01}	4.12	50.27 ^{3.3}	1.000	0.000	0.000
		Uniform	5.09e-04 ^{4.89e-03}	1.16 ^{0.05}	0.41 ^{0.08}	0.72 ^{0.09}	3.82 ^{1.63}	1.71 ^{0.74}	0.03 ^{0.01}	5.43	107.75 ^{112.6}	0.944	0.096	0.216
		Reference	5.14e-04 ^{4.94e-03}	1.16 ^{0.05}	0.55 ^{0.12}	0.84 ^{0.10}	2.14 ^{1.21}	0.96 ^{0.55}	0.03 ^{0.01}	3.00	21.85 ^{12.7}	0.912	0.000	0.000
		Baseline	4.92e-18 ^{5.27e-17}	1.23 ^{0.06}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	20	REML	-2.32e-04 ^{4.05e-03}	1.12 ^{0.04}	0.38 ^{0.08}	0.67 ^{0.10}	4.70 ^{2.18}	2.11 ^{1.01}	0.03 ^{0.01}	8.70	102.77 ^{110.2}	-	0.068	0.200
		MML	-2.32e-04 ^{4.05e-03}	1.12 ^{0.04}	0.40 ^{0.08}	0.70 ^{0.10}	4.17 ^{1.94}	1.87 ^{0.90}	0.03 ^{0.01}	-	102.70 ^{110.2}	-	0.068	0.200
		InvGam	-2.41e-04 ^{4.06e-03}	1.12 ^{0.04}	0.39 ^{0.06}	0.68 ^{0.09}	4.43 ^{1.76}	1.98 ^{0.82}	0.03 ^{0.01}	4.33	50.28 ^{3.6}	1.000	0.000	0.000
		Uniform	-2.39e-04 ^{4.04e-03}	1.12 ^{0.04}	0.38 ^{0.06}	0.67 ^{0.09}	4.59 ^{1.87}	2.06 ^{0.87}	0.03 ^{0.01}	5.72	102.70 ^{110.2}	0.924	0.068	0.200
		Reference	-2.35e-04 ^{4.08e-03}	1.12 ^{0.04}	0.46 ^{0.11}	0.76 ^{0.11}	3.21 ^{1.68}	1.44 ^{0.78}	0.03 ^{0.01}	2.88	23.41 ^{13.3}	0.876	0.000	</

Session	m	Algorithm	ME	RMSE	FIR(1)	FIR(2)	mean(StSE)	med(StSE)	max(MPP)	$\hat{\sigma}^2, mode(\sigma^2)$	$\hat{\phi}, mode(\phi)$	ϕ_{sim} in C.I.	$\hat{\phi}, mode(\phi) \approx min$	$\hat{\phi}, mode(\phi) \approx max$
9: Extreme short range in simulation: $\phi_{sim} = 5$	10	REML	-2.41e-05 ^{7.83e-04}	1.88 ^{0.17}	0.43 ^{0.14}	0.72 ^{0.17}	4.90 ^{6.04}	2.23 ^{2.79}	0.01 ^{0.00}	3.75	29.45 ^{57.7}	-	0.588	0.036
		MML	-2.41e-05 ^{7.83e-04}	1.88 ^{0.17}	0.49 ^{0.15}	0.78 ^{0.16}	3.68 ^{4.53}	1.67 ^{2.09}	0.01 ^{0.00}	-	29.46 ^{57.8}	-	0.580	0.036
		InvGam	-2.2e-05 ^{1.01e-03}	1.89 ^{0.18}	0.37 ^{0.10}	0.65 ^{0.14}	5.72 ^{4.24}	2.59 ^{1.97}	0.01 ^{0.00}	4.31	47.88 ^{1.4}	0.000	0.000	0.000
		Uniform	-2.4e-05 ^{1.04e-03}	1.89 ^{0.18}	0.37 ^{0.11}	0.65 ^{0.14}	5.71 ^{4.55}	2.59 ^{2.10}	0.01 ^{0.00}	3.43	29.46 ^{57.8}	0.000	0.580	0.036
		Reference	-2.48e-05 ^{7.89e-04}	1.88 ^{0.17}	0.64 ^{0.16}	0.90 ^{0.12}	1.62 ^{1.62}	0.75 ^{0.76}	0.02 ^{0.01}	2.88	7.20 ^{6.7}	0.852	0.000	0.000
		Baseline	-7.63e-19 ^{5.6e-17}	1.90 ^{0.17}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	15	REML	8.43e-05 ^{6.82e-03}	1.73 ^{0.16}	0.48 ^{0.11}	0.78 ^{0.12}	3.01 ^{2.45}	1.40 ^{1.21}	0.03 ^{0.01}	4.03	14.57 ^{21.9}	-	0.712	0.004
		MML	8.43e-05 ^{6.82e-03}	1.73 ^{0.16}	0.51 ^{0.11}	0.82 ^{0.12}	2.55 ^{2.07}	1.19 ^{1.02}	0.03 ^{0.01}	-	14.56 ^{21.9}	-	0.692	0.004
		InvGam	1.03e-04 ^{6.71e-03}	1.73 ^{0.16}	0.41 ^{0.09}	0.70 ^{0.11}	4.09 ^{2.43}	1.89 ^{1.19}	0.03 ^{0.01}	7.68	46.46 ^{1.2}	0.000	0.000	0.000
		Uniform	1e-04 ^{6.71e-03}	1.73 ^{0.16}	0.42 ^{0.10}	0.72 ^{0.12}	3.87 ^{2.46}	1.80 ^{1.21}	0.03 ^{0.01}	4.16	14.56 ^{21.9}	0.000	0.692	0.004
		Reference	9.95e-05 ^{6.76e-03}	1.73 ^{0.16}	0.70 ^{0.15}	0.93 ^{0.09}	1.18 ^{1.19}	0.55 ^{0.58}	0.05 ^{0.02}	3.79	6.37 ^{4.2}	0.904	0.000	0.000
		Baseline	-6.51e-19 ^{4.66e-17}	1.77 ^{0.16}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	20	REML	-3.86e-04 ^{7.35e-03}	1.59 ^{0.13}	0.51 ^{0.10}	0.82 ^{0.10}	2.39 ^{1.33}	1.12 ^{0.66}	0.05 ^{0.01}	4.59	11.93 ^{12.6}	-	0.792	0.000
		MML	-3.86e-04 ^{7.35e-03}	1.59 ^{0.13}	0.53 ^{0.10}	0.84 ^{0.09}	2.13 ^{1.19}	0.99 ^{0.58}	0.05 ^{0.01}	-	11.94 ^{12.7}	-	0.784	0.000
		InvGam	-3.76e-04 ^{7.22e-03}	1.59 ^{0.13}	0.44 ^{0.09}	0.75 ^{0.10}	3.24 ^{1.63}	1.51 ^{0.81}	0.05 ^{0.01}	11.10	45.67 ^{1.0}	0.000	0.000	0.000
		Uniform	-3.78e-04 ^{7.24e-03}	1.59 ^{0.13}	0.46 ^{0.10}	0.77 ^{0.11}	3.02 ^{1.60}	1.41 ^{0.79}	0.05 ^{0.01}	4.92	11.94 ^{12.7}	0.000	0.784	0.000
		Reference	-3.85e-04 ^{7.39e-03}	1.59 ^{0.13}	0.74 ^{0.16}	0.95 ^{0.08}	1.01 ^{0.94}	0.47 ^{0.45}	0.08 ^{0.04}	4.42	5.56 ^{3.5}	0.908	0.000	0.000
		Baseline	-8.72e-19 ^{4.07e-17}	1.65 ^{0.13}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	30	REML	-2.48e-04 ^{1.06e-02}	1.38 ^{0.10}	0.55 ^{0.08}	0.86 ^{0.07}	1.90 ^{0.73}	0.88 ^{0.34}	0.09 ^{0.02}	5.45	10.49 ^{1.9}	-	0.896	0.000
		MML	-2.48e-04 ^{1.06e-02}	1.38 ^{0.10}	0.56 ^{0.08}	0.87 ^{0.07}	1.76 ^{0.68}	0.81 ^{0.31}	0.09 ^{0.02}	-	10.49 ^{2.0}	-	0.880	0.000
		InvGam	-2.48e-04 ^{1.06e-02}	1.38 ^{0.10}	0.50 ^{0.08}	0.82 ^{0.08}	2.36 ^{0.89}	1.09 ^{0.41}	0.09 ^{0.02}	16.74	44.76 ^{0.9}	0.000	0.000	0.000
		Uniform	-2.48e-04 ^{1.06e-02}	1.38 ^{0.10}	0.52 ^{0.08}	0.83 ^{0.08}	2.18 ^{0.86}	1.00 ^{0.40}	0.09 ^{0.02}	5.98	10.49 ^{2.0}	0.000	0.880	0.000
		Reference	-2.57e-04 ^{1.05e-02}	1.38 ^{0.10}	0.76 ^{0.14}	0.96 ^{0.07}	0.89 ^{0.71}	0.41 ^{0.32}	0.12 ^{0.05}	4.98	4.95 ^{2.7}	0.856	0.000	0.000
		Baseline	-3.17e-18 ^{3.33e-17}	1.47 ^{0.11}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	50	REML	-1.16e-04 ^{1.84e-03}	1.11 ^{0.07}	0.59 ^{0.06}	0.90 ^{0.04}	1.51 ^{0.40}	0.69 ^{0.20}	0.10 ^{0.03}	6.67	10.03 ^{0.2}	-	0.984	0.000
		MML	-1.16e-04 ^{1.84e-03}	1.11 ^{0.07}	0.60 ^{0.06}	0.91 ^{0.04}	1.45 ^{0.38}	0.66 ^{0.19}	0.10 ^{0.03}	-	10.03 ^{0.2}	-	0.984	0.000
		InvGam	-1.35e-04 ^{2.01e-03}	1.11 ^{0.07}	0.56 ^{0.06}	0.88 ^{0.05}	1.72 ^{0.48}	0.79 ^{0.23}	0.11 ^{0.03}	24.13	43.99 ^{0.6}	0.000	0.000	0.000
		Uniform	-1.28e-04 ^{1.94e-03}	1.11 ^{0.07}	0.58 ^{0.06}	0.89 ^{0.05}	1.61 ^{0.45}	0.74 ^{0.22}	0.11 ^{0.03}	7.41	10.03 ^{0.2}	0.000	0.984	0.000
		Reference	-1.07e-04 ^{1.7e-03}	1.11 ^{0.07}	0.72 ^{0.10}	0.96 ^{0.04}	0.92 ^{0.42}	0.42 ^{0.20}	0.11 ^{0.03}	5.07	4.74 ^{1.6}	0.752	0.000	0.000
		Baseline	1.11e-18 ^{2.68e-17}	1.23 ^{0.08}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
10: Extreme long range in simulation: $\phi_{sim} = 600$	10	REML	8.55e-05 ^{6.39e-04}	0.24 ^{0.03}	0.72 ^{0.14}	0.95 ^{0.07}	1.01 ^{0.79}	0.48 ^{0.36}	0.00 ^{0.00}	1.37	146.49 ^{126.5}	-	0.136	0.372
		MML	8.55e-05 ^{6.39e-04}	0.24 ^{0.03}	0.78 ^{0.13}	0.97 ^{0.05}	0.76 ^{0.59}	0.36 ^{0.27}	0.00 ^{0.00}	-	146.54 ^{126.5}	-	0.132	0.372
		InvGam	7.49e-05 ^{6.04e-04}	0.24 ^{0.03}	0.77 ^{0.13}	0.97 ^{0.05}	0.77 ^{0.56}	0.37 ^{0.27}	0.00 ^{0.00}	0.49	51.04 ^{3.1}	0.000	0.000	0.000
		Uniform	8.05e-05 ^{6.44e-04}	0.24 ^{0.03}	0.75 ^{0.13}	0.96 ^{0.06}	0.85 ^{0.61}	0.40 ^{0.28}	0.00 ^{0.00}	0.74	146.54 ^{126.5}	0.000	0.132	0.372
		Reference	7.7e-05 ^{5.73e-04}	0.24 ^{0.03}	0.92 ^{0.08}	1.00 ^{0.02}	0.32 ^{0.25}	0.15 ^{0.11}	0.00 ^{0.00}	0.44	21.09 ^{13.2}	0.000	0.000	0.000
		Baseline	1.31e-18 ^{5.64e-17}	0.34 ^{0.05}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	15	REML	1.92e-04 ^{1.59e-03}	0.19 ^{0.02}	0.70 ^{0.11}	0.95 ^{0.05}	1.01 ^{0.49}	0.47 ^{0.23}	0.01 ^{0.00}	1.34	148.07 ^{123.7}	-	0.064	0.372
		MML	1.92e-04 ^{1.59e-03}	0.19 ^{0.02}	0.74 ^{0.11}	0.96 ^{0.04}	0.86 ^{0.42}	0.40 ^{0.20}	0.01 ^{0.00}	-	148.07 ^{123.7}	-	0.060	0.372
		InvGam	1.84e-04 ^{1.59e-03}	0.19 ^{0.02}	0.74 ^{0.11}	0.96 ^{0.04}	0.86 ^{0.41}	0.40 ^{0.19}	0.01 ^{0.00}	0.48	51.78 ^{4.2}	0.000	0.000	0.000
		Uniform	1.88e-04 ^{1.58e-03}	0.19 ^{0.02}	0.72 ^{0.11}	0.96 ^{0.04}	0.92 ^{0.43}	0.43 ^{0.20}	0.01 ^{0.00}	0.76	148.07 ^{123.7}	0.000	0.060	0.372
		Reference	1.88e-04 ^{1.6e-03}	0.19 ^{0.02}	0.83 ^{0.10}	0.99 ^{0.02}	0.56 ^{0.30}	0.26 ^{0.14}	0.01 ^{0.00}	0.39	27.39 ^{16.4}	0.004	0.000	0.000
		Baseline	1.28e-18 ^{4.31e-17}	0.26 ^{0.03}	-	-	-	-	0.00 ^{0.00}	-	-	-	-	-
	20	REML	-1.33e-04 ^{1.35e-03}	0.17 ^{0.02}	0.70 ^{0.10}	0.95 ^{0.04}	0.99 ^{0.42}	0.47 ^{0.20}	0.01 ^{0.00}	1.39	157.19 ^{125.1}	-	0.028	0.392
		MML	-1.33e-04 ^{1.35e-03}	0.17 ^{0.02}	0.73 ^{0.09}	0.96 ^{0.04}	0.88 ^{0.37}	0.41 ^{0.18}	0.01 ^{0.00}	-	157.08 ^{125.1}	-	0.028	0.392
		InvGam	-1.39e-04 ^{1.37e-03}	0.17 ^{0.02}	0.73 ^{0.09}	0.96 ^{0.04}	0.87 ^{0.35}	0.41 ^{0.17}	0.01 ^{0.00}	0.48	52.08 ^{4.7}	0.000	0.000	0.000
		Uniform	-1.37e-04 ^{1.35e-03}	0.17 ^{0.02}	0.71 ^{0.09}	0.96 ^{0.04}	0.93 ^{0.37}	0.44 ^{0.18}	0.01 ^{0.00}	0.82	157.08 ^{125.1}	0.000	0.028	0.392
		Reference	-1.36e-04 ^{1.37e-03}	0.17 ^{0.02}	0.78 ^{0.10}	0.98 ^{0.03}	0.69 ^{0.31}	0.33 ^{0.15}	0.01 ^{0.00}	0.37	30.62 ^{17.8}	0.012	0.000	0.000