SOGA: Inference of Probabilistic Programs by Second-order Gaussian Approximation Reproducibility Report

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Table 2: Evaluation of *SOGA* accuracy and runtime as variables increase by using PyMC as ground truth due to PSI timing out. Each row shows the model's number of variables (# vars), absolute percentage errors ($|\%e|$), and *SOGA* runtime.

	SOGA		*PyMC*		
Model	*time (s)*	*value*	*time (s)*	*value*	$\|\%e\|$
$timeseries_5$	0.129	0.998	294.057	0.993	0.482
$timeseries_6$	0.063	2.048	246.285	2.055	0.339
$timeseries_7$	0.055	1.999	513.226	2.004	0.229
$timeseries_8$	0.068	2.361	586.282	2.374	0.546
$timeseries_9$	0.064	2.879	to	-	-
$timeseries_{15}$	0.087	5.347	to	-	-
$timeseries_{25}$	0.103	6.185	to	-	-
$timeseries_{45}$	0.259	6.575	to	-	-
$timeseries_{65}$	0.509	6.622	to	-	-
$timeseries_{85}$	0.255	6.628	to	-	-
$timeseries_{100}$	0.946	6.628	to	-	-