		Sca		Scal		Scal		Scal		Scal		Scal		Scal	
		$e_{\rm max}^{\rm wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{\rm max}^{\rm wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{\rm max}^{\rm wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$
Bim. Gauss. $Q=50$	Smolyak	5.71e-01	2.69e-01	3.66e-01	1.55e-01	1.91e-01	7.14e-02	3.33e-02	9.39e-03	2.47e-03	6.16e-04	8.96e-06	2.44e-06	7.95e-09	2.19e-09
	LS-Uniform	3.51e+00	8.16e-01	5.12e+00	7.82e-01	3.56e+00	3.27e-01	8.19e+00	7.13e-01	3.15e+02	1.41e+01	1.93e+00	6.95e-02	3.03e+04	5.31e+02
	LS-Chebyshev	7.40e-01	2.89e-01	4.20e-01	1.35e-01	<b>1.87e-01</b>	<b>4.82e-02</b>	2.24e-02	<b>6.11e-03</b>	1.52e-03	<b>4.10e-04</b>	<b>6.78e-06</b>	<b>1.50e-06</b>	<b>7.27e-09</b>	<b>1.52e-09</b>
Cont. $Q = 50$	Smolyak	4.40e-02	1.49e-02	2.22e-02	5.15e-03	1.10e-02	1.58e-03	5.23e-03	6.18e-04	2.68e-03	2.17e-04	1.46e-03	8.93e-05	7.65e-04	2.95e-05
	LS-Uniform	2.66e-01	7.08e-02	5.19e-01	7.51e-02	3.64e-01	3.24e-02	6.88e-01	6.27e-02	5.86e+02	2.69e+01	7.77e+02	3.19e+01	8.46e+08	1.50e+07
	LS-Chebyshev	4.80e-02	2.21e-02	<b>1.84e-02</b>	<b>4.06e-03</b>	<b>9.43e-03</b>	<b>1.45e-03</b>	<b>4.69e-03</b>	<b>4.91e-04</b>	2.08e-03	1.85e-04	1.20e-03	<b>6.72e-05</b>	<b>6.47e-04</b>	2.71e-05
Corner Peak $Q=50$	Smolyak	8.78e-03	4.52e-03	1.48e-03	5.81e-04	1.04e-04	3.31e-05	8.90e-07	2.61e-07	6.08e-09	1.75e-09	2.77e-13	8.54e-14	6.99e-15	9.35e-16
	LS-Uniform	1.54e-02	3.24e-03	3.50e-03	5.50e-04	4.92e-04	5.98e-05	2.30e-04	2.04e-05	6.80e-04	3.05e-05	7.93e-08	2.70e-09	1.66e-02	2.92e-04
	LS-Chebyshev	8.88e-03	<b>3.12e-03</b>	<b>1.42e-03</b>	<b>4.44e-04</b>	<b>8.77e-05</b>	<b>2.65e-05</b>	<b>6.13e-07</b>	<b>1.70e-07</b>	6.32e-09	<b>1.30e-09</b>	2.79e-13	<b>5.98e-14</b>	1.39e-14	1.17e-15
Discont. $Q = 50$	Smolyak LS-Uniform LS-Chebyshev	4.73e+00 3.46e+01 3.47e+00	1.26e+00 8.99e+00 1.27e+00	$\substack{3.82\mathrm{e}+00\\7.48\mathrm{e}+01\\\mathbf{3.59\mathrm{e}}+00}$	$\substack{1.08\mathrm{e}+00\\1.09\mathrm{e}+01\\\textbf{7.15e-01}}$	$\substack{4.82\mathrm{e}+00\\6.02\mathrm{e}+01\\\mathbf{4.24\mathrm{e}}+00}$	$\substack{8.42\text{e-}01\\6.33\text{e+}00\\\mathbf{6.58\text{e-}01}}$	4.56e+00 3.07e+02 <b>3.44e+00</b>	$\substack{6.75\text{e-}01\\2.72\text{e+}01\\\textbf{4.35\text{e-}01}}$	4.07e+00 6.62e+05 <b>3.25e+00</b>	$\substack{4.26\text{e-}01\\2.77\text{e+}04\\\mathbf{2.92\text{e-}01}}$	3.57e+00 1.79e+06 <b>2.36e+00</b>	$\substack{3.28\text{e-}01\\6.20\text{e}+04\\\mathbf{2.04\text{e-}01}}$	4.70e+00 6.27e+12 <b>2.92e+00</b>	2.16e-01 1.10e+11 <b>1.46e-01</b>
Gauss. $Q = 50$	Smolyak	5.81e-01	2.39e-01	3.51e-01	9.72e-02	1.18e-01	3.11e-02	2.17e-02	5.03e-03	1.93e-03	4.27e-04	7.40e-06	1.88e-06	6.31e-09	1.51e-09
	LS-Uniform	3.13e+00	7.97e-01	3.83e+00	5.77e-01	3.44e+00	2.92e-01	7.53e+00	6.71e-01	2.27e+02	1.11e+01	2.62e+00	8.97e-02	1.88e+04	3.30e+02
	LS-Chebyshev	4.84e-01	1.75e-01	<b>3.40e-01</b>	<b>8.12e-02</b>	<b>6.74e-02</b>	<b>1.90e-02</b>	1.67e-02	<b>3.37e-03</b>	1.19e-03	2.87e-04	<b>5.39e-06</b>	<b>1.22e-06</b>	<b>5.51e-09</b>	<b>1.08e-09</b>
Geo. Mean $Q=50$	Smolyak	1.09e-02	5.50e-03	2.80e-03	7.19e-04	3.70e-04	7.25e-05	4.84e-05	8.72e-06	3.65e-06	6.94e-07	1.36e-07	2.22e-08	2.19e-09	3.61e-10
	LS-Uniform	7.18e-03	1.52e-03	5.70e-03	1.08e-03	1.33e-03	1.36e-04	3.29e-03	2.95e-04	1.07e-01	4.54e-03	3.88e-03	1.23e-04	2.26e+02	3.95e+00
	LS-Chebyshev	9.32e-03	4.52e-03	<b>2.45e-03</b>	9.90e-04	5.63e-04	9.85e-05	<b>3.23e-05</b>	<b>7.11e-06</b>	3.08e-06	<b>5.99e-07</b>	<b>9.87e-08</b>	<b>2.00e-08</b>	<b>2.06e-09</b>	<b>3.03e-10</b>
Noise $Q = 50$	Smolyak	6.00e-07	3.07e-07	6.46e-07	2.64e-07	7.78e-07	2.43e-07	8.85e-07	2.38e-07	9.21e-07	2.39e-07	1.21e-06	2.51e-07	1.25e-06	2.57e-07
	LS-Uniform	4.11e-06	1.04e-06	2.12e-05	3.07e-06	1.98e-05	2.30e-06	2.21e-04	2.00e-05	5.97e-01	2.69e-02	1.65e+00	5.52e-02	1.05e+07	1.84e+05
	LS-Chebyshev	<b>5.59e-07</b>	<b>2.36e-07</b>	<b>5.80e-07</b>	<b>1.97e-07</b>	<b>7.30e-07</b>	1.51e-07	1.13e-06	1.47e-07	<b>8.96e-07</b>	1.35e-07	<b>7.56e-07</b>	1.28e-07	<b>7.61e-07</b>	1.27e-07
Osci. $Q = 50$	Smolyak	3.97e-02	2.52e-02	2.12e-03	1.06e-03	4.48e-05	1.87e-05	9.42e-09	3.35e-09	5.70e-13	1.95e-13	9.44e-15	2.26e-15	1.97e-14	3.65e-15
	LS-Uniform	1.69e-01	3.71e-02	9.31e-03	1.42e-03	1.97e-04	3.00e-05	2.71e-06	2.40e-07	7.01e-08	3.60e-09	7.54e-09	2.53e-10	5.83e-02	1.02e-03
	LS-Chebyshev	4.57e-02	<b>1.78e-02</b>	2.53e-03	<b>8.35e-04</b>	5.56e-05	<b>1.33e-05</b>	<b>7.69e-09</b>	<b>2.20e-09</b>	<b>5.26e-13</b>	<b>1.40e-13</b>	3.43e-14	2.88e-15	2.81e-14	<b>2.41e-15</b>
Prod. Peak $Q=50$	Smolyak	1.04e-03	6.17e-04	8.63e-05	3.77e-05	3.51e-06	1.24e-06	2.27e-08	7.41e-09	3.03e-11	8.55e-12	7.77e-15	2.15e-15	1.80e-14	3.63e-15
	LS-Uniform	4.27e-03	9.86e-04	4.65e-04	7.06e-05	1.99e-05	2.55e-06	7.28e-06	6.43e-07	3.65e-06	1.54e-07	3.19e-09	1.14e-10	2.16e-02	3.83e-04
	LS-Chebyshev	1.05e-03	<b>5.03e-04</b>	1.01e-04	<b>3.20e-05</b>	<b>3.45e-06</b>	<b>8.70e-07</b>	1.81e-08	<b>4.66e-09</b>	2.75e-11	<b>6.14e-12</b>	1.55e-14	1.79e-15	2.56e-14	1.73e-15
Ridge Prod. $Q=50$	Smolyak	2.48e-01	1.05e-01	1.14e-01	3.85e-02	6.89e-02	1.54e-02	3.42e-02	5.39e-03	2.39e-02	2.13e-03	1.18e-02	9.11e-04	7.14e-03	3.33e-04
	LS-Uniform	1.29e+00	3.18e-01	2.37e+00	3.45e-01	1.61e+00	1.67e-01	9.01e+00	7.85e-01	6.36e+03	2.86e+02	5.10e+03	1.54e+02	1.57e+10	2.75e+08
	LS-Chebyshev	1.94e-01	<b>6.80e-02</b>	1.17e-01	4.08e-02	8.27e-02	<b>1.14e-02</b>	4.75e-02	<b>4.39e-03</b>	2.72e-02	<b>1.68e-03</b>	1.14e-02	<b>6.19e-04</b>	<b>5.41e-03</b>	<b>2.38e-04</b>

Table 1: The errors  $e_{\max}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=2, each scale for the different algorithms. Lowest value in bold.

		Sca		Sca		Sca		Scal		Scal		Scal		Scal	
		$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\text{mean}}^{\text{wc}}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{\rm max}^{\rm wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{\rm max}^{\rm wc}$	$e_{ m mean}^{ m wc}$
Bim. Gauss.	Smolyak	7.17e-01	2.93e-01	4.04e-01	1.43e-01	2.98e-01	8.74e-02	1.06e-01	2.28e-02	2.71e-02	5.99e-03	5.82e-03	9.34e-04	6.64e-04	1.12e-04
Q = 50	LS-Uniform	2.47e+00	4.44e-01	1.33e+00	2.13e-01	8.83e-01	1.27e-01	1.37e+00	6.60e-02	7.62e-01	2.36e-02	1.42e+00	2.36e-02	4.05e+01	4.14e-01
	LS-Chebyshev	6.04e-01	1.77e-01	5.85e-01	1.25e-01	2.25e-01	5.65e-02	7.17e-02	1.27e-02	2.26e-02	2.86e-03	3.83e-03	4.99e-04	3.65e-04	5.14e-05
Cont.	Smolyak	4.54e-02	1.16e-02	1.57e-02	3.66e-03	1.17e-02	1.68e-03	4.17e-03	4.94e-04	3.22e-03	1.92e-04	1.32e-03	6.54e-05	6.66e-04	2.43e-05
Q = 50	LS-Uniform	9.00e-02	1.51e-02	2.57e-02	4.94e-03	3.90e-02	2.89e-03	5.98e-02	2.11e-03	5.33e-02	1.49e-03	2.74e-01	4.00e-03	3.04e+01	3.14e-01
	LS-Chebyshev	3.30e-02	9.08e-03	1.90e-02	4.16e-03	7.98e-03	1.43e-03	5.42e-03	5.28e-04	2.11e-03	1.81e-04	1.04e-03	6.09e-05	5.69e-04	2.19e-05
Corner Peak	Smolyak	5.78e-02	1.58e-02	3.03e-02	5.80e-03	7.48e-03	1.46e-03	1.44e-03	2.55e-04	1.98e-04	2.96e-05	1.35e-05	2.06e-06	3.16e-07	4.17e-08
Q = 50	LS-Uniform	7.11e-02	1.33e-02	8.54e-03	1.65e-03	6.77e-03	3.90e-04	2.03e-03	1.02e-04	1.40e-03	3.23e-05	6.45e-04	1.13e-05	5.31e-03	5.72e-05
	LS-Chebyshev	3.38e-02	1.34e-02	9.19e-03	2.33e-03	2.31e-03	4.72e-04	3.68e-04	8.59e-05	6.43e-05	1.07e-05	5.24e-06	9.96e-07	1.16e-07	2.05e-08
Discont.	Smolyak	7.08e+00	1.73e+00	1.11e+01	1.33e+00	7.35e+00	1.03e+00	9.26e+00	8.10e-01	9.99e+00	5.76e-01	8.40e+00	4.81e-01	1.07e+01	3.28e-01
Q = 50	LS-Uniform	1.70e+01	3.87e+00	1.11e+01	1.66e+00	2.38e+01	1.67e+00	6.09e+01	2.57e+00	2.28e+02	5.88e+00	1.29e+03	2.70e+01	4.47e+05	4.45e+03
	LS-Chebyshev	6.97e+00	1.75e+00	6.09e+00	1.37e+00	5.86e+00	1.04e+00	7.10e+00	7.63e-01	9.30e+00	5.30e-01	6.44e+00	3.77e-01	6.29e+00	2.59e-01
Gauss.	Smolyak	6.32e-01	2.17e-01	4.54e-01	9.92e-02	2.21e-01	3.99e-02	1.20e-01	1.72e-02	3.31e-02	5.10e-03	7.56e-03	8.69e-04	9.87e-04	1.01e-04
Q = 50	LS-Uniform	1.66e+00	2.82e-01	7.59e-01	9.70e-02	7.69e-01	6.15e-02	6.03e-01	3.04e-02	6.14e-01	1.82e-02	9.04e-01	1.65e-02	5.56e+01	5.23e-01
	LS-Chebyshev	4.91e-01	1.28e-01	3.66e-01	7.08e-02	2.59e-01	2.74e-02	9.23e-02	8.81e-03	1.72e-02	2.09e-03	2.88e-03	3.73e-04	3.26e-04	4.46e-05
Geo. Mean	Smolyak	2.27e-02	7.18e-03	3.20e-03	8.34e-04	3.76e-04	6.70e-05	2.58e-05	4.08e-06	2.11e-06	2.89e-07	1.44e-07	1.55e-08	6.94e-09	7.03e-10
Q = 50	LS-Uniform	4.56e-02	6.02e-03	4.19e-03	5.11e-04	5.38e-04	4.27e-05	5.83e-05	3.24e-06	3.39e-05	9.23e-07	1.81e-06	4.77e-08	6.44e-05	6.38e-07
	LS-Chebyshev	2.22e-02	6.15e-03	3.75e-03	1.06e-03	2.48e-04	7.25e-05	1.39e-05	3.05e-06	9.97e-07	1.49e-07	4.43e-08	6.60e-09	2.38e-09	3.29e-10
NOISE	Smolyak	9.86e-07	3.43e-07	1.25e-06	3.48e-07	1.44e-06	4.06e-07	1.80e-06	4.04e-07	2.24e-06	4.56e-07	2.73e-06	4.96e-07	3.06e-06	5.57e-07
Q = 50	LS-Uniform	1.75e-06	3.59e-07	1.39e-06	2.47e-07	3.84e-06	3.29e-07	2.20e-05	8.19e-07	6.91e-05	1.80e-06	6.26e-04	1.09e-05	2.51e-01	2.57e-03
	LS-Chebyshev	6.16e-07	1.70e-07	6.21e-07	1.59e-07	6.35e-07	1.49e-07	8.77e-07	1.46e-07	9.05e-07	1.43e-07	7.14e-07	1.38e-07	7.36e-07	1.31e-07
Osci.	Smolyak	4.60e-01	1.54e-01	8.77e-02	3.12e-02	9.48e-03	3.25e-03	5.94e-04	1.77e-04	2.01e-05	4.99e-06	2.82e-07	6.29e-08	7.89e-11	1.71e-11
Q = 50	LS-Uniform	1.12e+00	2.40e-01	1.43e-01	1.71e-02	2.46e-02	1.93e-03	2.61e-03	1.24e-04	2.75e-04	7.39e-06	4.31e-05	7.63e-07	4.07e-06	3.67e-08
	LS-Chebyshev	6.95e-01	1.94e-01	9.86e-02	2.25e-02	8.00e-03	1.65e-03	3.41e-04	7.41e-05	1.38e-05	2.08e-06	1.45e-07	2.87e-08	4.98e-11	7.59e-12
Prod. Peak	Smolyak	3.13e-03	1.28e-03	4.30e-04	1.57e-04	4.39e-05	1.56e-05	3.80e-06	1.11e-06	2.04e-07	4.59e-08	5.45e-09	9.51e-10	4.20e-11	7.27e-12
Q = 50	LS-Uniform	9.12e-03	1.56e-03	5.74e-04	7.52e-05	8.01e-05	8.11e-06	1.44e-05	7.00e-07	2.28e-06	6.98e-08	9.92e-07	1.61e-08	1.46e-06	1.47e-08
	LS-Chebyshev	2.53e-03	1.04e-03	4.28e-04	1.07e-04	3.82e-05	8.14e-06	2.77e-06	5.03e-07	1.50e-07	2.05e-08	2.57e-09	4.36e-10	2.47e-11	3.23e-12
	Smolyak	6.03e-01	1.98e-01	4.75e-01	8.99e-02	2.08e-01	4.03e-02	1.18e-01	1.54e-02	7.33e-02	6.44e-03	3.25e-02	2.47e-03	3.06e-02	9.64e-04
Ridge Prod. Q = 50	LS-Uniform	1.09e+00	2.25e-01	4.55e-01	9.45e-02	4.46e-01	4.71e-02	9.80e-01	3.95e-02	2.31e+00	5.32e-02	1.25e+01	2.04e-01	2.03e+03	1.87e+01
	LS-Chebyshev	5.43e-01	1.53e-01	3.43e-01	7.47e-02	1.98e-01	3.08e-02	9.31e-02	1.15e-02	4.65e-02	4.66e-03	3.39e-02	1.74e-03	1.99e-02	6.82e-04

Table 2: The errors  $e_{\max}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=3, each scale for the different algorithms. Lowest value in bold.

		Sca	le 3	Sca	le 4	Sca	de 5	Sca	de 6	Sca	le 7	Sca	le 8	Scal	le 9
		$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{\rm max}^{\rm wc}$	$e_{ m mean}^{ m wc}$	$e_{\rm max}^{\rm wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$
Bim. Gauss. $Q=50$	Smolyak	6.34e-01	1.76e-01	6.14e-01	1.27e-01	3.43e-01	8.48e-02	1.77e-01	4.25e-02	1.01e-01	1.36e-02	3.60e-02	3.18e-03	9.18e-03	8.39e-04
	LS-Uniform	1.40e+00	1.86e-01	1.15e+00	1.23e-01	1.10e+00	9.00e-02	7.49e-01	3.09e-02	4.71e-01	1.36e-02	3.80e-01	5.27e-03	1.39e+00	7.92e-03
	LS-Chebyshev	7.14e-01	1.56e-01	<b>5.03e-01</b>	8.22e-02	2.35e-01	<b>4.60e-02</b>	1.18e-01	1.95e-02	4.77e-02	<b>6.20e-03</b>	1.29e-02	1.29e-03	<b>3.03e-03</b>	<b>2.47e-04</b>
Q = 50	Smolyak	3.06e-02	7.22e-03	1.51e-02	3.07e-03	9.36e-03	1.03e-03	4.98e-03	4.84e-04	2.80e-03	1.64e-04	1.13e-03	5.73e-05	6.76e-04	1.81e-05
	LS-Uniform	6.82e-02	8.94e-03	3.20e-02	3.45e-03	1.81e-02	1.67e-03	1.81e-02	7.44e-04	1.05e-02	3.41e-04	2.03e-02	2.56e-04	2.02e-01	1.17e-03
	LS-Chebyshev	<b>2.80e-02</b>	7.87e-03	1.33e-02	2.72e-03	7.72e-03	<b>9.94e-04</b>	3.78e-03	<b>3.61e-04</b>	2.23e-03	1.29e-04	8.58e-04	<b>4.69e-05</b>	<b>4.37e-04</b>	1.74e-05
Corner Peak $Q = 50$	Smolyak	1.62e-01	2.46e-02	8.14e-02	1.29e-02	5.39e-02	5.69e-03	1.89e-02	2.32e-03	6.42e-03	6.42e-04	1.60e-03	1.37e-04	3.10e-04	2.20e-05
	LS-Uniform	9.45e-02	1.05e-02	6.71e-02	4.08e-03	2.02e-02	1.08e-03	8.63e-03	2.20e-04	6.64e-03	<b>8.51e-05</b>	1.53e-03	2.20e-05	3.41e-03	2.36e-05
	LS-Chebyshev	1.14e-01	2.12e-02	<b>4.08e-02</b>	7.06e-03	1.23e-02	2.09e-03	<b>2.51e-03</b>	4.46e-04	<b>7.63e-04</b>	1.16e-04	1.81e-04	2.37e-05	<b>3.76e-05</b>	<b>4.59e-06</b>
Discont. $Q = 50$	Smolyak LS-Uniform LS-Chebyshev	2.40e+01 2.27e+01 2.49e+01	3.96e+00 4.40e+00 5.10e+00	$\substack{3.61\mathrm{e}+01\\ \mathbf{2.68e}+01\\ 2.99\mathrm{e}+01}$	3.29e+00 <b>3.24e+00</b> 3.74e+00	3.36e+01 5.96e+01 2.35e+01	$\substack{2.59\mathrm{e}+00\\3.33\mathrm{e}+00\\\mathbf{2.33\mathrm{e}}+00}$	2.92e+01 4.40e+01 <b>2.49e+01</b>	$\substack{1.96\text{e}+00\\3.05\text{e}+00\\\mathbf{1.78e}+00}$	2.90e+01 1.19e+02 1.98e+01	$\substack{1.40\mathrm{e}+00\\2.99\mathrm{e}+00\\\mathbf{1.33e}+00}$	$\substack{3.14\mathrm{e}+01\\5.04\mathrm{e}+02\\\mathbf{1.92\mathrm{e}}+01}$	1.04e+00 5.85e+00 1.07e+00	3.13e+01 1.13e+04 1.81e+01	7.74e-01 6.19e+01 7.73e-01
Q = 50	Smolyak	6.42e-01	1.75e-01	4.80e-01	8.93e-02	3.24e-01	4.70e-02	1.98e-01	2.07e-02	1.04e-01	7.66e-03	3.94e-02	3.36e-03	9.55e-03	9.78e-04
	LS-Uniform	8.28e-01	1.35e-01	1.03e+00	7.53e-02	1.01e+00	5.19e-02	1.30e+00	2.99e-02	3.52e-01	9.70e-03	3.41e-01	4.48e-03	1.31e+00	7.83e-03
	LS-Chebyshev	<b>5.90e-01</b>	9.71e-02	4.10e-01	<b>5.53e-02</b>	2.14e-01	2.71e-02	1.08e-01	1.13e-02	3.82e-02	<b>3.73e-03</b>	1.68e-02	1.06e-03	<b>5.26e-03</b>	<b>2.87e-04</b>
Geo. Mean $Q = 50$	Smolyak	8.36e-02	2.25e-02	3.02e-02	5.43e-03	9.51e-03	1.15e-03	2.33e-03	2.05e-04	5.75e-04	3.13e-05	9.34e-05	4.02e-06	1.07e-05	4.43e-07
	LS-Uniform	1.03e-01	1.27e-02	2.90e-02	2.50e-03	1.35e-02	<b>5.94e-04</b>	5.62e-03	1.27e-04	8.25e-04	1.35e-05	1.25e-04	2.09e-06	1.18e-04	9.63e-07
	LS-Chebyshev	1.03e-01	3.31e-02	2.91e-02	7.40e-03	<b>5.91e-03</b>	1.19e-03	<b>8.35e-04</b>	2.12e-04	1.92e-04	2.86e-05	1.68e-05	2.98e-06	3.13e-06	<b>2.92e-07</b>
Noise $Q = 50$	Smolyak	1.65e-06	4.23e-07	2.09e-06	5.18e-07	2.63e-06	5.34e-07	4.27e-06	6.76e-07	4.65e-06	7.53e-07	5.81e-06	9.02e-07	6.78e-06	1.02e-06
	LS-Uniform	1.45e-06	1.96e-07	1.48e-06	1.88e-07	3.94e-06	2.58e-07	6.85e-06	2.78e-07	1.39e-05	4.01e-07	7.98e-05	9.71e-07	2.00e-03	1.32e-05
	LS-Chebyshev	<b>6.18e-07</b>	1.75e-07	<b>7.31e-07</b>	1.71e-07	7.82e-07	1.49e-07	<b>8.05e-07</b>	1.38e-07	7.41e-07	1.39e-07	<b>7.44e-07</b>	1.37e-07	<b>7.95e-07</b>	1.37e-07
Osci. $Q = 50$	Smolyak	1.73e+00	3.71e-01	6.40e-01	1.27e-01	1.47e-01	3.57e-02	2.27e-02	5.91e-03	2.29e-03	5.81e-04	1.65e-04	3.36e-05	6.86e-06	1.18e-06
	LS-Uniform	2.57e+00	4.73e-01	1.12e+00	1.18e-01	3.74e-01	2.14e-02	8.01e-02	2.14e-03	6.46e-03	1.75e-04	8.88e-04	1.58e-05	4.14e-04	3.25e-06
	LS-Chebyshev	2.99e+00	6.38e-01	1.04e+00	2.00e-01	1.19e-01	2.60e-02	1.21e-02	2.29e-03	1.06e-03	<b>1.60e-04</b>	<b>6.54e-05</b>	<b>8.09e-06</b>	<b>2.32e-06</b>	<b>2.84e-07</b>
Prod. Peak $Q = 50$	Smolyak	7.49e-03	1.86e-03	1.17e-03	2.97e-04	1.95e-04	4.47e-05	2.37e-05	5.74e-06	2.36e-06	5.40e-07	2.12e-07	3.75e-08	1.43e-08	1.83e-09
	LS-Uniform	7.81e-03	1.60e-03	3.43e-03	1.92e-04	3.59e-04	2.02e-05	7.85e-05	2.11e-06	5.35e-06	1.28e-07	9.85e-07	1.64e-08	8.28e-07	5.47e-09
	LS-Chebyshev	<b>6.16e-03</b>	2.04e-03	1.13e-03	2.97e-04	1.08e-04	2.55e-05	<b>1.09e-05</b>	<b>2.09e-06</b>	1.10e-06	1.52e-07	<b>7.08e-08</b>	<b>9.16e-09</b>	<b>4.38e-09</b>	<b>4.44e-10</b>
Ridge Prod. $Q = 50$	Smolyak	1.70e+00	3.83e-01	1.30e+00	2.05e-01	7.02e-01	8.54e-02	3.40e-01	3.77e-02	2.32e-01	1.58e-02	1.24e-01	6.54e-03	4.96e-02	2.72e-03
	LS-Uniform	2.06e+00	2.88e-01	1.16e+00	1.47e-01	1.02e+00	9.01e-02	1.02e+00	3.59e-02	6.19e-01	2.10e-02	2.03e+00	2.22e-02	1.28e+01	8.16e-02
	LS-Chebyshev	<b>9.88e-01</b>	3.53e-01	<b>5.30e-01</b>	1.27e-01	2.94e-01	<b>5.48e-02</b>	<b>2.30e-01</b>	<b>2.59e-02</b>	1.19e-01	<b>9.61e-03</b>	<b>6.77e-02</b>	<b>3.92e-03</b>	<b>4.23e-02</b>	<b>1.60e-03</b>

Table 3: The errors  $e_{\text{max}}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=4, each scale for the different algorithms. Lowest value in bold.

			le 3		le 4		le 5		le 6		le 7	Sca	
		$e_{\rm max}^{\rm wc}$	$e_{\text{mean}}^{\text{wc}}$	$e_{\rm max}^{\rm wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{\rm max}^{\rm wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{\rm max}^{\rm wc}$	$e_{ m mean}^{ m wc}$	$e_{\rm max}^{\rm wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$
Bim. Gauss. $Q=50$	Smolyak	6.58e-01	2.19e-01	6.01e-01	9.79e-02	3.44e-01	6.83e-02	2.10e-01	3.35e-02	1.14e-01	1.41e-02	5.70e-02	5.97e-03
	LS-Uniform	9.73e-01	1.46e-01	1.01e+00	8.20e-02	1.05e+00	5.14e-02	1.27e+00	2.76e-02	1.21e+00	1.35e-02	8.27e-01	5.01e-03
	LS-Chebyshev	<b>5.92e-01</b>	1.11e-01	<b>4.63e-01</b>	<b>6.17e-02</b>	2.71e-01	<b>3.30e-02</b>	<b>1.56e-01</b>	1.79e-02	<b>6.91e-02</b>	<b>7.30e-03</b>	<b>2.88e-02</b>	<b>2.14e-03</b>
Q = 50	Smolyak	3.24e-02	6.00e-03	1.60e-02	2.55e-03	8.41e-03	8.77e-04	3.68e-03	3.27e-04	2.18e-03	1.31e-04	8.40e-04	4.66e-05
	LS-Uniform	3.47e-02	7.08e-03	2.26e-02	3.14e-03	1.63e-02	1.17e-03	1.36e-02	4.58e-04	6.62e-03	2.06e-04	7.40e-03	1.04e-04
	LS-Chebyshev	2.80e-02	6.25e-03	1.45e-02	<b>2.23e-03</b>	<b>6.89e-03</b>	<b>7.64e-04</b>	<b>3.13e-03</b>	<b>2.85e-04</b>	1.42e-03	1.02e-04	<b>7.27e-04</b>	3.74e-05
Corner Peak $Q = 50$	Smolyak	1.56e-01	2.07e-02	2.47e-01	1.57e-02	1.25e-01	1.07e-02	7.94e-02	5.60e-03	3.98e-02	2.24e-03	1.65e-02	1.01e-03
	LS-Uniform	4.36e-02	<b>5.32e-03</b>	1.21e-01	<b>4.43e-03</b>	6.88e-02	1.49e-03	1.91e-02	<b>4.54e-04</b>	1.51e-02	1.62e-04	1.39e-02	<b>6.86e-05</b>
	LS-Chebyshev	1.51e-01	3.78e-02	5.15e-02	1.30e-02	<b>2.44e-02</b>	4.49e-03	8.78e-03	1.20e-03	2.72e-03	3.57e-04	1.25e-03	1.15e-04
Discont. $Q = 50$	Smolyak LS-Uniform LS-Chebyshev	4.92e+01 5.05e+01 4.93e+01	7.98e+00 9.25e+00 <b>7.89e+00</b>	5.33e+01 6.57e+01 6.37e+01	5.79e+00 7.68e+00 6.57e+00	5.18e+01 7.06e+01 <b>5.03e+01</b>	4.33e+00 5.40e+00 4.62e+00	6.96e+01 1.27e+02 <b>5.36e+01</b>	3.59e+00 4.79e+00 3.66e+00	$\substack{7.05\mathrm{e}+01\\1.84\mathrm{e}+02\\\mathbf{4.26e}+01}$	2.61e+00 5.00e+00 2.71e+00	$\substack{7.93\mathrm{e}+01\\3.20\mathrm{e}+02\\\mathbf{4.79\mathrm{e}}+01}$	1.92e+00 4.61e+00 2.04e+00
Q = 50	Smolyak	6.92e-01	1.18e-01	5.59e-01	7.81e-02	4.13e-01	6.14e-02	2.36e-01	2.39e-02	1.11e-01	8.48e-03	4.50e-02	3.53e-03
	LS-Uniform	5.93e-01	9.65e-02	1.05e+00	8.73e-02	1.11e+00	3.93e-02	6.08e-01	1.70e-02	7.12e-01	1.01e-02	8.05e-01	4.63e-03
	LS-Chebyshev	6.71e-01	<b>8.36e-02</b>	<b>4.57e-01</b>	<b>5.40e-02</b>	<b>2.64e-01</b>	<b>2.75e-02</b>	<b>1.49e-01</b>	1.25e-02	<b>7.31e-02</b>	<b>4.62e-03</b>	<b>2.69e-02</b>	<b>1.46e-03</b>
Geo. Mean $Q=50$	Smolyak	2.20e-02	5.62e-03	5.79e-03	9.61e-04	1.28e-03	1.42e-04	1.84e-04	1.79e-05	3.08e-05	1.64e-06	3.21e-06	1.30e-07
	LS-Uniform	3.12e-02	<b>4.22e-03</b>	6.55e-03	<b>5.47e-04</b>	1.46e-03	<b>6.65e-05</b>	3.74e-04	<b>8.14e-06</b>	5.12e-05	<b>9.06e-07</b>	4.22e-06	<b>6.83e-08</b>
	LS-Chebyshev	2.24e-02	8.09e-03	<b>4.78e-03</b>	7.64e-04	<b>5.93e-04</b>	1.02e-04	<b>6.03e-05</b>	1.21e-05	<b>1.06e-05</b>	1.30e-06	<b>1.13e-06</b>	1.03e-07
$\begin{array}{c} {\rm noise} \\ Q=50 \end{array}$	Smolyak	1.86e-06	5.11e-07	2.72e-06	6.52e-07	4.71e-06	7.87e-07	6.50e-06	9.68e-07	9.92e-06	1.21e-06	1.06e-05	1.47e-06
	LS-Uniform	1.13e-06	<b>1.76e-07</b>	1.67e-06	1.92e-07	3.03e-06	1.90e-07	7.35e-06	2.27e-07	1.06e-05	2.99e-07	3.63e-05	4.34e-07
	LS-Chebyshev	<b>8.94e-07</b>	1.77e-07	7.39e-07	1.51e-07	<b>7.12e-07</b>	1.48e-07	<b>8.82e-07</b>	1.48e-07	<b>7.43e-07</b>	<b>1.42e-07</b>	<b>8.45e-07</b>	1.43e-07
Q = 50	Smolyak	3.16e+00	6.35e-01	1.96e+00	3.25e-01	8.12e-01	1.37e-01	1.98e-01	3.66e-02	3.98e-02	8.11e-03	5.71e-03	1.11e-03
	LS-Uniform	7.47e+00	8.13e-01	3.53e+00	3.44e-01	1.87e+00	<b>8.95e-02</b>	1.44e+00	2.34e-02	2.71e-01	3.65e-03	3.33e-02	3.65e-04
	LS-Chebyshev	3.93e+00	1.02e+00	2.23e+00	5.68e-01	<b>7.15e-01</b>	1.66e-01	<b>1.56e-01</b>	3.08e-02	<b>2.59e-02</b>	<b>3.41e-03</b>	<b>2.31e-03</b>	<b>2.90e-04</b>
Prod. Peak $Q = 50$	Smolyak	9.44e-03	1.67e-03	1.51e-03	3.14e-04	3.04e-04	5.54e-05	4.84e-05	8.17e-06	6.45e-06	1.09e-06	8.07e-07	1.28e-07
	LS-Uniform	<b>7.66e-03</b>	1.25e-03	2.88e-03	2.89e-04	1.22e-03	<b>3.95e-05</b>	2.85e-04	5.28e-06	2.59e-05	4.58e-07	5.06e-06	4.72e-08
	LS-Chebyshev	9.17e-03	2.19e-03	2.11e-03	3.67e-04	3.62e-04	4.76e-05	<b>4.66e-05</b>	<b>4.97e-06</b>	<b>4.87e-06</b>	<b>4.37e-07</b>	<b>3.99e-07</b>	<b>3.50e-08</b>
Ridge Prod. $Q = 50$	Smolyak	2.92e+00	6.22e-01	2.40e+00	3.19e-01	1.80e+00	1.67e-01	8.60e-01	8.16e-02	4.45e-01	3.77e-02	3.11e-01	1.70e-02
	LS-Uniform	2.32e+00	<b>4.64e-01</b>	2.05e+00	2.24e-01	1.88e+00	1.10e-01	1.40e+00	5.16e-02	9.51e-01	2.92e-02	1.43e+00	1.86e-02
	LS-Chebyshev	<b>2.23e+00</b>	6.17e-01	<b>1.26e+00</b>	2.63e-01	<b>9.49e-01</b>	1.02e-01	<b>3.85e-01</b>	<b>4.24e-02</b>	<b>1.92e-01</b>	<b>1.79e-02</b>	<b>1.58e-01</b>	<b>7.57e-03</b>

Table 4: The errors  $e_{\text{max}}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=5, each scale for the different algorithms. Lowest value in bold.

		Sca	le 3	Sca	le 4		ıle 5		le 6		le 7
		$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$
	Smolyak	7.63e-01	1.60e-01	5.55e-01	1.10e-01	4.59e-01	6.18e-02	3.38e-01	2.96e-02	1.88e-01	1.22e-02
Bim. Gauss. Q = 50	LS-Uniform	9.79e-01	1.16e-01	1.28e+00	7.12e-02	7.96e-01	3.72e-02	8.97e-01	2.03e-02	7.20e-01	1.21e-02
Q = 00	LS-Chebyshev	7.01e-01	1.23e-01	5.40e-01	6.15 e-02	4.19e-01	3.47e-02	2.04e-01	1.63e-02	1.18e-01	7.75e-03
	Smolyak	2.46e-02	5.14e-03	1.37e-02	1.90e-03	7.75e-03	7.71e-04	3.31e-03	3.30e-04	1.78e-03	1.10e-04
Q = 50	LS-Uniform	3.23e-02	5.40e-03	1.68e-02	2.30e-03	1.09e-02	9.02e-04	1.16e-02	3.73e-04	5.36e-03	1.60e-04
	LS-Chebyshev	2.47e-02	5.55e-03	1.38e-02	2.15e-03	6.24e-03	7.46e-04	3.75e-03	$2.59\mathrm{e}\text{-}04$	1.58e-03	9.33e-05
	Smolyak	2.46e-02	2.99e-03	1.80e-01	8.18e-03	2.53e-01	8.59e-03	1.44e-01	5.65e-03	1.07e-01	4.41e-03
Corner Peak Q = 50	LS-Uniform	2.41e-02	2.87e-03	1.03e-01	2.87e-03	7.82e-02	1.19e-03	7.77e-02	6.63e-04	2.75e-02	1.54e-04
• • • •	LS-Chebyshev	7.62e-02	2.10e-02	6.89e-02	9.41e-03	2.50e-02	4.35e-03	1.75e-02	2.11e-03	8.05e-03	7.55e-04
	Smolyak	1.19e+02	$1.29e{+01}$	1.67e+02	1.14e+01	1.38e+02	7.79e + 00	1.31e+02	$5.95\mathrm{e}{+00}$	1.75e+02	4.24e+00
Discont. Q = 50	LS-Uniform	1.12e+02	1.38e+01	1.27e+02	1.13e+01	1.42e+02	9.37e+00	2.74e+02	8.39e+00	3.37e+02	7.03e+00
	LS-Chebyshev	1.45e+02	4.46e+01	1.37e+02	2.16e+01	1.01e+02	1.07e+01	1.08e + 02	7.36e+00	1.01e+02	5.33e+00
	Smolyak	5.74e-01	1.63e-01	5.92e-01	8.11e-02	4.88e-01	4.00e-02	3.05e-01	2.13e-02	1.95e-01	8.53e-03
Q = 50	LS-Uniform	7.27e-01	1.11e-01	6.73e-01	5.92e-02	9.13e-01	3.42e-02	1.40e+00	1.85e-02	8.09e-01	8.80e-03
	LS-Chebyshev	6.30e-01	9.58e-02	5.16e-01	5.49e-02	3.05e-01	2.89e-02	1.69e-01	1.34e-02	9.95e-02	5.00e-03
	Smolyak	9.67e-02	2.23e-02	3.33e-02	4.40e-03	6.61e-03	6.20e-04	1.20e-03	1.12e-04	3.06e-04	1.70e-05
Geo. Mean $Q = 50$	LS-Uniform	1.24e-01	1.62e-02	2.86e-02	3.13e-03	8.01e-03	3.48e-04	4.62e-03	5.96e-05	5.21e-04	8.06e-06
	LS-Chebyshev	1.04e-01	2.51e-02	2.43e-02	5.71e-03	5.20e-03	9.03e-04	7.05e-04	9.40e-05	1.05e-04	1.40e-05
	Smolyak	2.98e-06	6.30e-07	4.34e-06	9.47e-07	8.13e-06	1.08e-06	1.08e-05	1.42e-06	1.53e-05	1.84e-06
Noise $Q = 50$	LS-Uniform	1.09e-06	1.62e-07	2.38e-06	1.61e-07	2.97e-06	1.74e-07	8.25e-06	2.14e-07	1.15e-05	2.52e-07
	LS-Chebyshev	7.27e-07	1.73e-07	7.92e-07	1.63e-07	7.93e-07	1.57e-07	8.30e-07	1.49e-07	9.26e-07	1.49e-07
Osci.	Smolyak	8.22e+00	9.31e-01	5.60e+00	5.52 e-01	2.34e+00	2.79e-01	9.08e-01	1.15e-01	2.67e-01	3.63e-02
Q = 50	LS-Uniform	7.38e+00	9.44e-01	7.51e+00	6.52e-01	6.52e+00	2.55e-01	4.17e+00	8.02e-02	1.47e+00	1.98e-02
	LS-Chebyshev	5.68e + 00	1.28e+00	3.63e+00	9.07e-01	2.31e+00	4.57e-01	7.52e-01	1.33e-01	1.63e-01	2.75e-02
	Smolyak	9.11e-03	1.58e-03	2.55e-03	2.81e-04	3.29e-04	4.74e-05	5.42e-05	7.37e-06	8.00e-06	1.14e-06
Prod. Peak Q = 50	LS-Uniform	1.96e-02	1.84e-03	4.56e-03	2.72e-04	7.60e-04	2.89e-05	3.73e-04	4.33e-06	8.31e-05	6.08e-07
	LS-Chebyshev	1.50e-02	2.60e-03	3.33e-03	3.93e-04	4.72e-04	4.64e-05	8.14e-05	5.99e-06	1.09e-05	6.35e-07
	Smolyak	6.46e+00	9.21e-01	6.57e+00	5.98e-01	4.06e+00	3.12e-01	1.86e+00	1.60e-01	1.18e+00	7.76e-02
Ridge Prod. Q = 50	LS-Uniform	3.24e+00	5.50e-01	4.09e+00	2.63e-01	2.21e+00	1.33e-01	1.91e+00	7.53e-02	1.10e+00	3.85e-02
	LS-Chebyshev	3.78e+00	8.72e-01	3.10e+00	3.98e-01	1.66e+00	1.80e-01	7.14e-01	7.62e-02	4.85e-01	3.25e-02

Table 5: The errors  $e_{\max}^{\text{wc}}$  and  $e_{\max}^{\text{wc}}$  for d=6, each scale for the different algorithms. Lowest value in bold.

			le 3	Sca			le 5		le 6	Sca	
		$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$
	Smolyak	5.74e-01	9.52e-02	5.51e-01	6.38e-02	5.00e-01	4.12e-02	3.37e-01	2.24e-02	2.08e-01	1.29e-02
Bim. Gauss. Q = 50	LS-Uniform	6.72e-01	7.97e-02	7.04e-01	4.92e-02	2.33e+00	3.49e-02	1.17e+00	2.44e-02	1.85e+00	1.71e-02
Q = 00	LS-Chebyshev	6.09e-01	8.44e-02	5.50e-01	4.78e-02	4.07e-01	2.92e-02	2.38e-01	1.64e-02	1.49e-01	9.16e-03
	Smolyak	3.05e-02	6.08e-03	1.22e-02	1.95e-03	7.33e-03	7.47e-04	4.32e-03	2.83e-04	1.78e-03	1.08e-04
O = 50	LS-Uniform	3.32e-02	5.12e-03	1.91e-02	1.94e-03	1.35e-02	8.28e-04	1.17e-02	3.24e-04	6.02e-03	1.35e-04
Q = 00	LS-Chebyshev	2.13e-02	5.31e-03	1.13e-02	1.78e-03	5.84e-03	6.34e-04	2.99e-03	2.35e-04	1.74e-03	8.47e-05
	Smolyak	1.68e-02	1.40e-03	3.63e-02	2.11e-03	1.06e-01	3.14e-03	1.36e-01	3.50e-03	1.45e-01	3.08e-03
Corner Peak $Q = 50$	LS-Uniform	1.49e-02	7.53e-04	2.17e-02	4.91e-04	3.75e-02	4.28e-04	6.35e-02	4.00e-04	4.31e-02	1.72e-04
* **	LS-Chebyshev	3.82e-02	1.26e-02	2.98e-02	4.26e-03	2.76e-02	3.68e-03	1.62e-02	1.41e-03	9.84e-03	6.83e-04
	Smolyak	3.16e+02	3.26e + 01	3.15e+02	2.22e+01	3.21e+02	1.78e + 01	2.93e+02	1.29e+01	3.78e+02	9.44e+00
Discont. Q = 50	LS-Uniform	5.30e+02	3.27e+01	3.72e+02	2.34e+01	4.73e+02	1.82e+01	3.96e+02	1.51e+01	7.70e+02	1.33e+01
Q = 00	LS-Chebyshev	2.55e+02	5.16e+01	2.21e+02	$4.58e{+01}$	2.45e+02	2.90e+01	2.71e+02	2.14e+01	3.10e+02	1.54e+01
	Smolyak	8.19e-01	8.12e-02	6.49e-01	9.23e-02	5.66e-01	3.82e-02	4.27e-01	1.90e-02	2.89e-01	1.24e-02
Gauss. Q = 50	LS-Uniform	6.16e-01	6.05e-02	6.97e-01	3.99e-02	9.40e-01	2.56e-02	1.90e+00	1.90e-02	1.08e+00	9.96e-03
Q = 00	LS-Chebyshev	6.45e-01	7.00e-02	5.18e-01	3.70e-02	3.33e-01	2.22e-02	2.45e-01	1.22e-02	1.38e-01	6.03e-03
	Smolyak	2.12e-01	3.39e-02	5.98e-02	9.17e-03	1.69e-02	1.66e-03	5.02e-03	3.01e-04	1.22e-03	5.36e-05
Geo. Mean $Q = 50$	LS-Uniform	2.46e-01	1.96e-02	6.28e-02	5.51e-03	2.67e-02	9.99e-04	5.91e-03	1.25e-04	1.96e-03	1.69e-05
Q = 00	LS-Chebyshev	1.69e-01	4.66e-02	7.30e-02	1.61e-02	1.53e-02	2.97e-03	2.32e-03	3.96e-04	4.64e-04	5.06e-05
	Smolyak	3.89e-06	7.36e-07	7.43e-06	1.18e-06	1.29e-05	1.44e-06	1.83e-05	1.99e-06	2.80e-05	2.59e-06
Noise $Q = 50$	LS-Uniform	1.03e-06	1.40e-07	2.18e-06	1.50e-07	4.86e-06	1.72e-07	7.99e-06	1.94e-07	1.59e-05	2.34e-07
Q = 00	LS-Chebyshev	6.94e-07	1.70e-07	8.48e-07	1.70e-07	9.50e-07	1.58e-07	1.07e-06	1.55e-07	1.12e-06	1.56e-07
	Smolyak	1.07e+01	1.22e+00	9.41e+00	9.07e-01	5.95e+00	5.23 e-01	3.24e+00	2.56e-01	1.26e+00	1.05e-01
Osci. Q = 50	LS-Uniform	1.10e+01	1.12e+00	1.37e+01	7.95e-01	2.03e+01	4.98e-01	1.55e+01	2.40e-01	8.97e+00	7.95e-02
Q = 00	LS-Chebyshev	6.02e+00	1.39e+00	4.89e+00	1.17e+00	4.09e+00	7.94e-01	2.75e+00	4.25e-01	8.34e-01	1.35e-01
	Smolyak	8.35e-03	1.62e-03	2.36e-03	3.25e-04	5.73e-04	6.41e-05	1.18e-04	1.13e-05	2.85e-05	1.87e-06
Prod. Peak Q = 50	LS-Uniform	1.49e-02	1.82e-03	4.91e-03	3.00e-04	8.68e-04	4.60e-05	3.77e-04	6.61e-06	1.35e-04	1.14e-06
Q = 00	LS-Chebyshev	1.38e-02	2.93e-03	4.36e-03	5.51e-04	7.29e-04	7.56e-05	1.61e-04	1.14e-05	2.90e-05	1.40e-06
	Smolyak	1.64e+01	1.22e+00	1.34e+01	8.31e-01	9.61e+00	4.93e-01	5.26e+00	2.66e-01	3.23e+00	1.35e-01
Ridge Prod. Q = 50	LS-Uniform	7.44e+00	7.64e-01	5.69e+00	4.08e-01	3.73e+00	2.25e-01	3.20e+00	1.20e-01	2.14e+00	6.46e-02
- 00	LS-Chebyshev	6.29e+00	1.45e+00	3.24e+00	7.89e-01	2.17e+00	3.60e-01	1.98e+00	1.62e-01	9.39e-01	7.06e-02

Table 6: The errors  $e_{\text{max}}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=7, each scale for the different algorithms. Lowest value in bold.

		Sca	le 3	Sca	le 4	Sca	le 5	Sca	le 6
		$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$
	Smolyak	1.27e+00	3.51e-01	9.95e-01	1.66e-01	4.83e-01	7.72e-02	3.37e-01	3.80e-02
Bim. Gauss. Q = 50	LS-Uniform	6.17e-01	5.79e-02	6.54e-01	4.06e-02	8.87e-01	2.64e-02	1.06e+00	1.82e-02
Q = 30	LS-Chebyshev	6.28e-01	6.48 e- 02	5.80e-01	5.10 e-02	4.61e-01	2.74e-02	2.74e-01	1.46e-02
	Smolyak	2.35e-02	4.67e-03	1.13e-02	1.89e-03	6.45e-03	6.21e-04	3.25e-03	2.40e-04
Q = 50	LS-Uniform	2.41e-02	4.44e-03	1.40e-02	1.80e-03	9.09e-03	7.09e-04	5.86e-03	2.80e-04
Q — 00	LS-Chebyshev	2.22e-02	4.75e-03	1.26e-02	$1.65\mathrm{e}\text{-}03$	5.08e-03	6.01e-04	2.85e-03	2.17e-04
	Smolyak	1.40e-03	6.37e-05	7.79e-03	5.32e-04	4.59e-02	9.43e-04	4.68e-02	1.34e-03
Corner Peak Q = 50	LS-Uniform	1.29e-03	8.69e-05	1.43e-03	9.33e-05	9.09e-03	7.55e-05	7.43e-03	7.63e-05
Q 00	LS-Chebyshev	1.52e-02	3.77e-03	2.64e-02	3.62e-03	2.40e-02	2.21e-03	1.56e-02	9.77e-04
	Smolyak	6.16e+02	4.12e+01	4.69e+02	3.33e+01	1.00e+03	2.78e + 01	8.55e+02	2.15e+01
Discont. Q = 50	LS-Uniform	4.39e+02	4.64e+01	5.24e+02	4.03e+01	7.67e + 02	3.26e+01	8.95e+02	2.75e+01
Q — 00	LS-Chebyshev	5.56e+02	8.63e+01	4.46e+02	$6.56e{+01}$	8.71e+02	4.60e+01	8.14e+02	3.56e+01
	Smolyak	5.52e-01	1.32e-01	6.66e-01	7.20e-02	5.10e-01	4.32e-02	3.42e-01	2.35e-02
Gauss. Q = 50	LS-Uniform	5.90e-01	$5.49\mathrm{e}\text{-}02$	9.57e-01	3.33e-02	7.75e-01	2.12e-02	8.86e-01	1.30e-02
	LS-Chebyshev	6.10e-01	7.08e-02	5.32e-01	3.60e-02	4.23e-01	2.02e-02	2.45e-01	1.11e-02
	Smolyak	7.50e-02	1.68e-02	2.32e-02	3.01e-03	6.07e-03	5.67e-04	1.60e-03	1.05e-04
Geo. Mean $Q = 50$	LS-Uniform	8.86e-02	1.09e-02	2.59e-02	1.87e-03	3.50e-03	2.15e-04	1.94e-03	2.84e-05
Q — 00	LS-Chebyshev	1.03e-01	2.53e-02	2.16e-02	4.55e-03	4.17e-03	5.71e-04	3.78e-04	6.69e-05
	Smolyak	5.30e-06	8.86e-07	1.10e-05	1.46e-06	1.77e-05	1.94e-06	2.64e-05	2.67e-06
Noise $Q = 50$	LS-Uniform	9.18e-07	1.34e-07	1.41e-06	1.42e-07	3.08e-06	1.58e-07	6.80e-06	1.81e-07
	LS-Chebyshev	7.69e-07	1.75e-07	8.40e-07	1.63e-07	9.82e-07	1.61e-07	1.08e-06	1.61e-07
	Smolyak	1.74e+01	1.53e+00	1.66e+01	1.13e+00	1.42e+01	7.29e-01	1.29e+01	4.34e-01
Osci. Q = 50	LS-Uniform	1.07e+01	$1.20\mathrm{e}{+00}$	1.22e+01	9.90e-01	1.71e+01	7.00e-01	2.00e+01	4.00e-01
Q 00	LS-Chebyshev	5.75e+00	1.45e+00	5.84e+00	1.27e+00	5.79e+00	1.09e+00	$ 4.52\mathrm{e}{+00} $	7.55e-01
	Smolyak	1.07e-02	1.34e-03	3.01e-03	2.86e-04	1.05e-03	6.48e-05	2.19e-04	1.16e-05
Prod. Peak Q = 50	LS-Uniform	1.70e-02	1.32e-03	4.71e-03	2.49e-04	1.48e-03	$4.39\mathrm{e}\text{-}05$	1.19e-03	7.35e-06
	LS-Chebyshev	1.87e-02	2.34e-03	5.39e-03	4.65e-04	1.11e-03	8.02e-05	2.30e-04	1.16e-05
	Smolyak	2.29e+01	1.85e+00	2.60e+01	1.40e+00	1.89e+01	9.00e-01	1.10e+01	5.33e-01
Ridge Prod. Q = 50	LS-Uniform	7.92e+00	$1.30\mathrm{e}{+00}$	6.54e + 00	7.10e-01	5.65e+00	3.95 e-01	5.08e+00	2.09e-01
- 50	LS-Chebyshev	9.91e+00	2.75e+00	6.68e+00	1.61e+00	4.08e+00	7.55e-01	2.58e + 00	3.53e-01

Table 7: The errors  $e_{\text{max}}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=8, each scale for the different algorithms. Lowest value in bold.

		Sca	le 3		le 4	Sca	le 5		le 6
		$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$
	Smolyak	8.64e-01	2.63e-01	8.49e-01	1.23e-01	7.20e-01	5.77e-02	3.17e-01	2.91e-02
Bim. Gauss. Q = 50	LS-Uniform	5.65e-01	6.83e-02	1.42e+00	4.23e-02	1.13e+00	2.90e-02	1.43e+00	1.83e-02
Q = 50	LS-Chebyshev	6.50e-01	7.35e-02	5.48e-01	4.42e-02	4.36e-01	2.71e-02	2.98e-01	1.59e-02
	Smolyak	2.08e-02	4.22e-03	1.26e-02	1.74e-03	4.71e-03	7.08e-04	3.44e-03	2.55e-04
Cont. Q = 50	LS-Uniform	2.26e-02	4.27e-03	1.56e-02	1.86e-03	1.33e-02	7.18e-04	9.70e-03	2.93e-04
Q = 50	LS-Chebyshev	2.09e-02	4.60 e - 03	9.93e-03	1.86e-03	5.37e-03	6.31e-04	2.60e-03	2.33e-04
	Smolyak	1.30e-03	4.80e-05	1.49e-02	4.24e-04	3.07e-02	6.85e-04	4.38e-02	8.63e-04
Corner Peak Q = 50	LS-Uniform	1.46e-03	5.45e-05	6.29e-03	8.21e-05	5.84e-03	3.80e-05	2.55e-02	8.50e-05
Q — 00	LS-Chebyshev	3.56e-02	8.37e-03	2.21e-02	3.34e-03	1.46e-02	1.54e-03	1.97e-02	1.03e-03
	Smolyak	1.11e+03	7.78e + 01	1.84e+03	5.96e + 01	1.62e+03	4.44e+01	2.28e+03	3.75e + 01
Discont. Q = 50	LS-Uniform	1.25e+03	9.28e + 01	1.59e+03	7.37e+01	1.57e + 03	5.85e + 01	1.85e + 03	4.80e+01
Q — 00	LS-Chebyshev	1.06e+03	1.61e + 02	1.98e+03	1.45e + 02	1.73e+03	9.91e+01	2.05e+03	7.17e+01
	Smolyak	5.85e-01	1.46e-01	9.05e-01	8.47e-02	5.07e-01	4.52e-02	3.81e-01	2.74e-02
Gauss. Q = 50	LS-Uniform	5.43e-01	4.69e-02	8.32e-01	3.36e-02	8.26e-01	2.38e-02	1.39e+00	1.49e-02
	LS-Chebyshev	5.99e-01	4.31e-02	5.93e-01	3.13e-02	4.24e-01	2.10e-02	2.95e-01	1.27e-02
	Smolyak	1.54e-01	3.18e-02	5.70e-02	8.03e-03	1.56e-02	1.37e-03	3.57e-03	1.52e-04
Geo. Mean Q = 50	LS-Uniform	1.28e-01	1.48e-02	7.95e-02	4.52e-03	2.44e-02	8.86e-04	4.25e-03	8.22e-05
<b>Q</b> 00	LS-Chebyshev	1.58e-01	4.58e-02	6.94e-02	1.42e-02	1.70e-02	2.74e-03	2.24e-03	2.98e-04
	Smolyak	5.41e-06	1.18e-06	1.23e-05	1.76e-06	2.59e-05	2.62e-06	3.88e-05	3.57e-06
Noise $Q = 50$	LS-Uniform	1.03e-06	1.31e-07	1.69e-06	1.39e-07	3.67e-06	1.53e-07	1.05e-05	1.74e-07
Q — 00	LS-Chebyshev	7.20e-07	1.85e-07	9.39e-07	1.73e-07	1.14e-06	1.65e-07	1.33e-06	1.65e-07
	Smolyak	2.42e+01	2.27e+00	3.33e+01	1.48e+00	2.19e+01	1.12e+00	2.13e+01	7.17e-01
Osci. Q = 50	LS-Uniform	8.54e+00	1.15e + 00	1.69e+01	1.07e + 00	3.41e+01	8.90e-01	4.13e+01	6.09e-01
<b>Q</b> 00	LS-Chebyshev	6.95e+00	1.52e+00	6.84e+00	1.41e+00	6.82e + 00	1.24e+00	6.29e+00	9.71e-01
	Smolyak	1.05e-02	1.84e-03	3.58e-03	3.43e-04	9.39e-04	6.33e-05	1.40e-04	1.04e-05
Prod. Peak Q = 50	LS-Uniform	1.62e-02	1.52e-03	8.66e-03	3.02e-04	2.92e-03	4.69e-05	9.15e-04	7.01e-06
₩ — 50	LS-Chebyshev	2.39e-02	3.22 e - 03	6.19e-03	5.25 e - 04	1.35e-03	8.90e-05	2.73e-04	1.25e-05
	Smolyak	4.61e+01	2.46e+00	4.11e+01	1.85e+00	3.73e+01	1.30e+00	2.35e+01	7.50e-01
Ridge Prod. Q = 50	LS-Uniform	1.93e+01	$1.52\mathrm{e}{+00}$	1.51e+01	8.92e-01	1.48e+01	4.86e-01	8.80e+00	2.75e-01
	LS-Chebyshev	1.54e+01	4.25e+00	1.39e+01	2.17e+00	8.35e+00	1.18e+00	4.76e + 00	5.52e-01

Table 8: The errors  $e_{\text{max}}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=9, each scale for the different algorithms. Lowest value in bold.

		Sca	le 3	Sca	le 4	Sca	le 5
		$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{ m mean}^{ m wc}$	$e_{ m max}^{ m wc}$	$e_{\mathrm{mean}}^{\mathrm{wc}}$
	Smolyak	1.21e+00	2.73e-01	9.42e-01	1.45e-01	8.41e-01	6.38e-02
Bim. Gauss. $Q = 50$	LS-Uniform	5.24e-01	$6.01\mathrm{e} ext{-}02$	4.85e-01	4.17e-02	1.13e+00	2.66e-02
Q = 00	LS-Chebyshev	6.88e-01	6.53 e-02	5.97e-01	4.47e-02	4.92e-01	$2.57\mathrm{e}\text{-}02$
	Smolyak	2.33e-02	4.16e-03	9.30e-03	1.55e-03	5.37e-03	6.20e-04
Cont. $Q = 50$	LS-Uniform	2.36e-02	3.73e-03	1.20e-02	1.48e-03	1.07e-02	6.01e-04
Q = 00	LS-Chebyshev	2.23e-02	4.08e-03	1.03e-02	1.45e-03	5.61e-03	$5.39\mathrm{e}\text{-}04$
	Smolyak	4.08e-04	1.11e-05	5.66e-04	1.08e-05	1.16e-02	1.67e-04
Corner Peak $Q = 50$	LS-Uniform	3.87e-04	2.09e-05	5.40e-04	1.26e-05	9.89e-04	9.84e-06
Q = 00	LS-Chebyshev	1.62e-03	2.92e-04	1.33e-03	2.53e-04	4.98e-03	3.72e-04
	Smolyak	4.14e+03	2.24e+02	4.14e+03	1.37e + 02	2.92e+03	1.00e+02
Discont. $Q = 50$	LS-Uniform	$3.36e{+03}$	1.93e + 02	2.89e + 03	1.43e+02	2.62e+03	1.13e+02
Q = 00	LS-Chebyshev	3.79e+03	4.90e+02	3.60e+03	3.37e + 02	2.60e + 03	2.30e+02
	Smolyak	7.29e-01	8.59e-02	6.10e-01	5.78e-02	5.69e-01	3.47e-02
Gauss. $Q=50$	LS-Uniform	5.32e-01	4.63e-02	5.28e-01	2.98e-02	1.01e+00	1.82e-02
	LS-Chebyshev	7.05e-01	5.57e-02	5.66e-01	3.15e-02	4.67e-01	1.96e-02
	Smolyak	2.11e-01	3.30e-02	1.24e-01	1.11e-02	5.30e-02	3.61e-03
Geo. Mean $Q = 50$	LS-Uniform	1.33e-01	1.46e-02	7.36e-02	4.07e-03	2.87e-02	8.66e-04
Q = 00	LS-Chebyshev	1.70e-01	3.77e-02	5.84e-02	1.26e-02	1.60e-02	2.92e-03
	Smolyak	1.06e-05	1.74e-06	2.09e-05	2.14e-06	3.98e-05	3.22e-06
NOISE $Q = 50$	LS-Uniform	7.99e-07	1.25e-07	1.42e-06	1.31e-07	3.67e-06	1.47e-07
<b>Q</b> = 50	LS-Chebyshev	7.85e-07	1.77e-07	1.01e-06	1.76e-07	1.15e-06	1.70e-07
	Smolyak	4.10e+01	3.10e+00	4.89e+01	2.10e+00	4.38e+01	1.44e+00
Osci. $Q = 50$	LS-Uniform	6.72e+00	1.12e+00	1.70e+01	1.13e+00	4.13e+01	1.09e+00
Q = 00	LS-Chebyshev	6.05e+00	1.46e + 00	7.55e+00	1.44e + 00	7.39e+00	1.34e+00
	Smolyak	1.53e-02	1.89e-03	4.83e-03	4.05e-04	1.79e-03	6.80e-05
Prod. Peak $Q = 50$	LS-Uniform	3.22e-02	1.41e-03	8.72e-03	2.71e-04	3.74e-03	5.71e-05
~ - 00	LS-Chebyshev	1.99e-02	2.59e-03	8.62e-03	5.31e-04	2.12e-03	9.73e-05
	Smolyak	4.96e+01	2.83e+00	6.16e+01	2.16e+00	4.62e+01	1.64e+00
Ridge Prod. $Q = 50$	LS-Uniform	1.98e + 01	1.64e + 00	1.61e + 01	9.34e-01	1.40e+01	5.31e-01
	LS-Chebyshev	2.68e+01	6.33e+00	1.98e+01	3.37e+00	1.00e+01	1.63e+00

Table 9: The errors  $e_{\text{max}}^{\text{wc}}$  and  $e_{\text{mean}}^{\text{wc}}$  for d=10, each scale for the different algorithms. Lowest value in bold.