Row pmbasis
rand_s = 0, shift zero, otherwise random shift rand_s*(rdim+1)
spars: sparsity

bits	m	n	order	rand_s	spars	old	new middle	linear.	midd. geo.
40	8	4	2	0	1.00	0.000	0.000 (nan)	0.000 (nan)	0.000 (nan)
40	8	4	5	0	1.00	0.000	0.000 (nan)	0.000 (nan)	0.000 (nan)
40	8	4	10	0	1.00	0.000	0.000 (nan)	0.000 (nan)	0.000 (nan)
40	8	4	20	0	1.00	0.001	0.000 (0.00)	0.000 (0.00)	0.000 (0.00)
40	8	4	40	0	1.00	0.000	0.001 (inf)	0.001 (inf)	0.001 (inf)
40	8	4	80	0	1.00	0.002	0.001 (0.50)	0.003 (1.50)	0.002 (1.00)
40	8	4	160	0	1.00	0.005	0.004 (0.80)	0.008 (1.60)	0.004 (0.80)
40	8	4	320	0	1.00	0.013	0.009 (0.69)	0.015 (1.15)	0.009 (0.69)
40	8	4	640	0	1.00	0.035	0.024 (0.69)	0.038 (1.09)	0.025 (0.71)
40	8	4	1280	0	1.00	0.092	0.060 (0.65)	0.090 (0.98)	0.062 (0.67)
40	8	4	1800	0	1.00	0.149	0.090 (0.60)	0.127 (0.85)	0.094 (0.63)
40	8	4	2560	0	1.00	0.234	0.145 (0.62)	0.207 (0.88)	0.150 (0.64)
40	8	4	5120	0	1.00	0.625	0.346 (0.55)	0.494 (0.79)	0.356 (0.57)
40	8	4	8000	0	1.00	1.104	0.540 (0.49)	0.732 (0.66)	0.557 (0.50)

bits	m	n	order	rand_s	spars	old	new middle	linear.	midd. geo.
60	30	16	2	2	1.00	0.000	0.000 (nan)	0.000 (nan)	0.000 (nan)
60	30	16	5	2	1.00	0.000	0.001 (inf)	0.000 (nan)	0.001 (inf)
60	30	16	10	2	1.00	0.002	0.001 (0.50)	0.001 (0.50)	0.001 (0.50)
60	30	16	20	2	1.00	0.004	0.003 (0.75)	0.004 (1.00)	0.004 (1.00)
60	30	16	40	2	1.00	0.019	0.019 (1.00)	0.015 (0.79)	0.012 (0.63)
60	30	16	80	2	1.00	0.083	0.076 (0.92)	0.063 (0.76)	0.057 (0.69)
60	30	16	160	2	1.00	0.248	0.239 (0.96)	0.187 (0.75)	0.206 (0.83)
60	30	16	320	2	1.00	0.809	0.657 (0.81)	0.526 (0.65)	0.574 (0.71)
60	30	16	640	2	1.00	2.659	1.976 (0.74)	1.470 (0.55)	1.751 (0.66)

bits	m	n	order	rand_s	spars	old	new middle	linear.	midd. geo.
60	30	16	2	0	0.20	0.000	0.000 (nan)	0.000 (nan)	0.000 (nan)
60	30	16	5	0	0.20	0.000	0.001 (inf)	0.000 (nan)	0.000 (nan)
60	30	16	10	0	0.20	0.001	0.001 (1.00)	0.001 (1.00)	0.001 (1.00)
60	30	16	20	0	0.20	0.003	0.003 (1.00)	0.002 (0.67)	0.003 (1.00)
60	30	16	40	0	0.20	0.012	0.010 (0.83)	0.008 (0.67)	0.009 (0.75)
60	30	16	80	0	0.20	0.048	0.042 (0.88)	0.035 (0.73)	0.043 (0.90)
60	30	16	160	0	0.20	0.142	0.140 (0.99)	0.122 (0.86)	0.152 (1.07)
60	30	16	320	0	0.20	0.480	0.470 (0.98)	0.371 (0.77)	0.509 (1.06)
60	30	16	640	0	0.20	1.303	1.220 (0.94)	1.033 (0.79)	1.222 (0.94)

bits	m	n	order	rand_s	spars	old	new middle	linear.	midd. geo.
40	40	1	2	0	1.00	0.000	0.000 (nan)	0.001 (inf)	0.000 (nan)
40	40	1	5	0	1.00	0.000	0.000 (nan)	0.000 (nan)	0.000 (nan)
40	40	1	10	0	1.00	0.000	0.001 (inf)	0.000 (nan)	0.000 (nan)
40	40	1	20	0	1.00	0.001	0.000 (0.00)	0.001 (1.00)	0.001 (1.00)
40	40	1	40	0	1.00	0.002	0.002 (1.00)	0.001 (0.50)	0.002 (1.00)
40	40	1	80	0	1.00	0.004	0.004 (1.00)	0.004 (1.00)	0.005 (1.25)
40	40	1	160	0	1.00	0.012	0.010 (0.83)	0.007 (0.58)	0.012 (1.00)
40	40	1	320	0	1.00	0.029	0.026 (0.90)	0.021 (0.72)	0.036 (1.24)
40	40	1	640	0	1.00	0.079	0.064 (0.81)	0.050 (0.63)	0.085 (1.08)
40	40	1	1280	0	1.00	0.245	0.209 (0.85)	0.146 (0.60)	0.246 (1.00)
40	40	1	1800	0	1.00	0.372	0.306 (0.82)	0.229 (0.62)	0.353 (0.95)
40	40	1	2560	0	1.00	0.527	0.373 (0.71)	0.268 (0.51)	0.454 (0.86)
40	40	1	5120	0	1.00	1.561	1.098 (0.70)	0.797 (0.51)	1.253 (0.80)
40	40	1	8000	0	1.00	2.514	1.604 (0.64)	1.471 (0.59)	1.837 (0.73)

bits	m	n	order	rand_s	spars	old	new middle	linear.	midd. geo.
60	40	8	2	4	1.00	0.000	0.000 (nan)	0.000 (nan)	0.001 (inf)
60	40	8	5	4	1.00	0.001	0.000 (0.00)	0.001 (1.00)	0.000 (0.00)
60	40	8	10	4	1.00	0.001	0.002 (2.00)	0.001 (1.00)	0.002 (2.00)
60	40	8	20	4	1.00	0.004	0.005 (1.25)	0.004 (1.00)	0.004 (1.00)
60	40	8	40	4	1.00	0.021	0.020 (0.95)	0.013 (0.62)	0.020 (0.95)
60	40	8	80	4	1.00	0.060	0.059 (0.98)	0.037 (0.62)	0.058 (0.97)
60	40	8	160	4	1.00	0.162	0.148 (0.91)	0.084 (0.52)	0.148 (0.91)
60	40	8	320	4	1.00	0.488	0.399 (0.82)	0.188 (0.39)	0.386 (0.79)
60	40	8	640	4	1.00	1.337	0.950 (0.71)	0.464 (0.35)	0.899 (0.67)
60	40	8	1280	4	1.00	4.176	2.522 (0.60)	0.947 (0.23)	2.394 (0.57)
60	40	8	1800	4	1.00	6.751	4.086 (0.61)	1.554 (0.23)	3.928 (0.58)

bits	m	n	order	rand_s	spars	old	new middle	linear.	midd. geo.
40	100	1	2	0	1.00	0.000	0.001 (inf)	0.000 (nan)	0.001 (inf)
40	100	1	5	0	1.00	0.002	0.001 (0.50)	0.001 (0.50)	0.001 (0.50)
40	100	1	10	0	1.00	0.002	0.002 (1.00)	0.002 (1.00)	0.002 (1.00)
40	100	1	20	0	1.00	0.004	0.003 (0.75)	0.003 (0.75)	0.003 (0.75)
40	100	1	40	0	1.00	0.008	0.009 (1.12)	0.005 (0.62)	0.011 (1.38)
40	100	1	80	0	1.00	0.017	0.018 (1.06)	0.009 (0.53)	0.023 (1.35)
40	100	1	160	0	1.00	0.043	0.042 (0.98)	0.026 (0.60)	0.055 (1.28)
40	100	1	320	0	1.00	0.129	0.121 (0.94)	0.077 (0.60)	0.191 (1.48)
40	100	1	640	0	1.00	0.376	0.340 (0.90)	0.220 (0.59)	0.477 (1.27)
40	100	1	1280	0	1.00	1.027	0.900 (0.88)	0.613 (0.60)	1.164 (1.13)
40	100	1	1800	0	1.00	1.570	1.327 (0.85)	1.003 (0.64)	1.696 (1.08)
40	100	1	2560	0	1.00	3.042	2.602 (0.86)	1.702 (0.56)	3.107 (1.02)
40	100	1	5120	0	1.00	7.323	5.601 (0.76)	3.531 (0.48)	6.620 (0.90)
40	100	1	8000	0	1.00	15.441	12.207 (0.79)	8.054 (0.52)	13.697 (0.89)

bits	m	n	order	rand_s	spars	old	new middle	linear.	midd. geo.
40	100	3	2	0	1.00	0.000	0.000 (nan)	0.001 (inf)	0.001 (inf)
40	100	3	5	0	1.00	0.001	0.001 (1.00)	0.001 (1.00)	0.001 (1.00)
40	100	3	10	0	1.00	0.002	0.002 (1.00)	0.003 (1.50)	0.002 (1.00)
40	100	3	20	0	1.00	0.004	0.004 (1.00)	0.004 (1.00)	0.003 (0.75)
40	100	3	40	0	1.00	0.011	0.010 (0.91)	0.007 (0.64)	0.013 (1.18)
40	100	3	80	0	1.00	0.031	0.028 (0.90)	0.016 (0.52)	0.036 (1.16)
40	100	3	160	0	1.00	0.101	0.082 (0.81)	0.054 (0.53)	0.098 (0.97)
40	100	3	320	0	1.00	0.335	0.243 (0.73)	0.179 (0.53)	0.331 (0.99)
40	100	3	640	0	1.00	0.865	0.533 (0.62)	0.305 (0.35)	0.691 (0.80)
40	100	3	1280	0	1.00	2.663	1.455 (0.55)	0.753 (0.28)	1.738 (0.65)
40	100	3	1800	0	1.00	4.627	2.395 (0.52)	1.194 (0.26)	2.613 (0.56)
40	100	3	2560	0	1.00	7.924	3.938 (0.50)	1.895 (0.24)	4.382 (0.55)
40	100	3	5120	0	1.00	22.927	10.104 (0.44)	4.485 (0.20)	10.716 (0.47)