

1 Numerical examples

Table 1: Numerical results for the test problem.

	Preconditioner	β	10^{-5}	10^{-3}	10^{-1}	1	10^1	10^3	10^5
$\alpha = 0$	P_{11}	γ_{opt} CPU IT	-1 20.1524 2	-5 20.3897 3	0 21.6320 5	-10 20.9403 4	-5 21.0267 4	-5 20.6878 3	-5 20.0209 2
	P_{110}	γ_{opt} CPU IT							
	P_{12}	γ_{opt} CPU IT							
	P_{13}	γ_{opt} CPU IT							
$\alpha = 10^{-5}$	P_{11}	γ_{opt} CPU IT	-5 20.1884 2	-5 20.5298 3	-5 22.0391 6	-5 22.1887 6	-5 22.2401 6	5 22.0389 6	2 20.8126 3
	P_{110}	γ_{opt} CPU IT							
	P_{12}	γ_{opt} CPU IT							
	P_{13}	γ_{opt} CPU IT							
$\alpha = 10^{-3}$	P_{11}	γ_{opt} CPU IT	-5 20.4940 2	-5 20.9396 3	0 24.5959 11	-5 27.1284 16	0 27.5280 17	-5 31.6370 25	-5 23.7888 9
	P_{110}	γ_{opt} CPU IT							
	P_{12}	γ_{opt} CPU IT							
	P_{13}	γ_{opt} CPU IT							
$\alpha = 10^{-1}$	P_{11}	γ_{opt} CPU IT	-1 25.1075 12	-2 25.4314 13	0 27.1975 17	0 47.4843 58	1 67.7178 101	2 67.7909 51	5 67.7795 60
	P_{110}	γ_{opt} CPU IT							
	P_{12}	γ_{opt} CPU IT							
	P_{13}	γ_{opt} CPU IT							