

h	$f(k+h)$	$f(k-h)$	Δf	$\partial f / \partial Kp_h(fw)$	$\partial f / \partial Kp_h(cen)$
10^{-1}	—	—	—	—	—
10^{-2}	3.660184895	4.188900746	0.649251824	64.9251824	-26.43579257
10^{-3}	2.98921458	3.038949284	-0.02171849092	-21.71849092	-24.86735209
10^{-4}	3.008637763	3.013091788	-0.002295307343	-22.95307343	-22.2701223
10^{-5}	3.010396061	3.010866503	-0.0005370091387	-53.70091387	-23.52205981
10^{-6}	3.010946055	3.010920014	1.298432543e-05	12.98432543	13.02045775
10^{-7}	3.010934378	3.010931768	1.307531608e-06	13.07531608	13.05117726
10^{-8}	3.010933201	3.01093294	1.302322987e-07	13.02322987	13.02323585
10^{-9}	3.010933084	3.010933058	1.302527908e-08	13.02527908	13.02517849
10^{-10}	3.010933072	3.010933069	1.306585062e-09	13.06585062	13.0400446
10^{-11}	3.010933071	3.010933076	1.347957301e-10	13.47957301	-266.8232968
10^{-12}	3.010933071	3.010933071	1.34914302e-11	13.4914302	13.43480882
10^{-13}	3.010933071	3.010933071	3.854694341e-12	38.54694341	13.12727704
10^{-14}	3.010933071	3.010933071	4.916511642e-12	491.6511642	237.1658425
10^{-15}	3.010933076	3.010933071	5.615786058e-09	5615786.058	2807889.921
10^{-16}	3.010933071	3.010933071	5.000000414e-12	50000.00414	25028.86787
10^{-17}	3.010933071	3.010933071	5.000000414e-12	500000.0414	-599.5204333
10^{-18}	3.010933071	3.010933071	0	0	0
10^{-19}	3.010933071	3.010933071	0	0	0
10^{-20}	3.010933071	3.010933071	0	0	0
10^{-21}	3.010933071	3.010933071	0	0	0
10^{-22}	3.010933071	3.010933071	0	0	0

Table 1: Step size study for Kp_h, gains Kph0.0544697_Kih0.0076355_Kpth1.6802_Kith2.01171_Kdth-1.64786_KpV2.05882