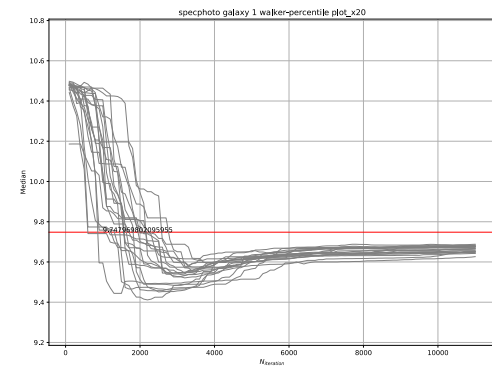
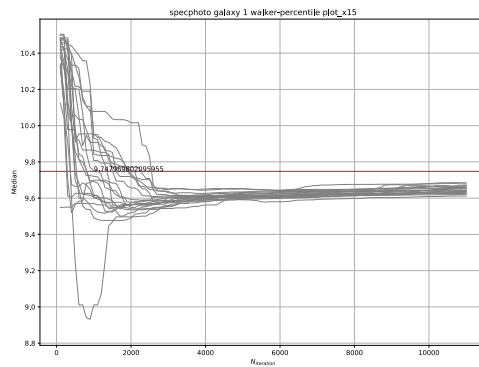
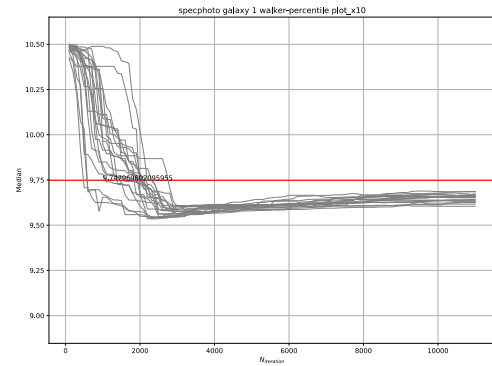
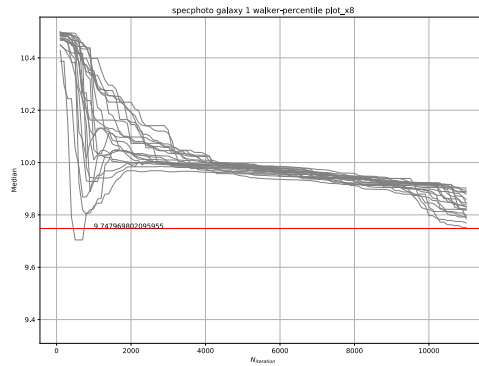
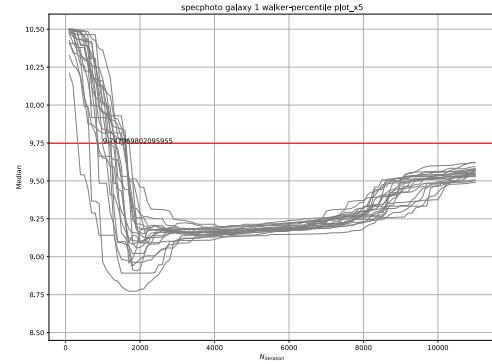
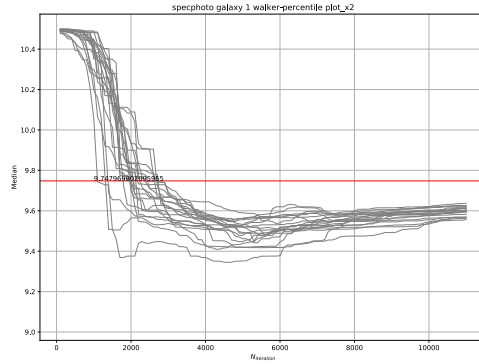


GQPMC Report

James Kyubin Kwon

1. Scattering Magnitude Test

The optimal scattering magnitude seems to be $\sim 10x$ or $\sim 15x$ the default scatter, since the convergence were achieved more quickly and accurately. The plots are attached.



2. Optimization Method Test

BFGS, CG, L-BFGS-B, Nelder-Mead, Powell, SLSQP were tested. The plot of the result is shown below.

Some methods raised following errors.

#Newton-CG: ValueError: Jacobian is required for Newton-CG method

#TNC: ValueError: setting an array element with a sequence.

#COBYLA: Aborted ~40 minutes, will run again overnight

#trust-constr: TypeError: _minimize_trustregion_constr() got an unexpected keyword argument 'epos'

#dogleg: ValueError: Jacobian is required for dogleg minimization

#trust-ncg: ValueError: Jacobian is required for Newton-CG trust-region minimization

#trust-exact: ValueError: Jacobian is required for trust region exact minimization.

#trust-krylov: ValueError: ('Jacobian is required for trust region ', 'exact minimization.')

