The CLAS12 Reconstruction Resolution[1] ADRIAN SAINA, University of Surrey, GERARD GILFOYLE, University of Richmond, VERONIQUE ZIEGLER, Jefferson Lab — Jefferson Lab's CLAS12 detector studies nucleon structure by measuring recoil particles in electron scattering experiments. The event data is processed by the CLAS12 reconstruction software. This project aims to find the reconstruction software resolution at each subsystem of the CLAS12 Forward Detector. The analysis was done on events created with the CLAS12 simulation software, *gemc*. It produces state vectors of particles at the interaction vertex and simulates the CLAS12 response. The reconstruction software is then used to extract the trajectories from simulated detector hits. Two vertex state vectors, one generated at the start of simulation and one reconstructed, are used as input for swimming through CLAS12- the equations of motion of the particles in the CLAS12 magnetic field are integrated. The particles are swum to the surfaces of each of the subsystems in the Forward Detector. The differences in endpoint positions and angles are plotted and fitted, with the standard deviation of the fit giving a measure of the reconstruction resolution. The resolutions have been obtained for different conditions and particle species. The results will be used in matching drift chamber trajectories to hits in other subsystems of the Forward Detector.

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