

Track Reconstruction for the OLYMPUS Experiment

The OLYMPUS Collaboration

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Abstract

The OLYMPUS experiment will determine the two-photon contribution to lepton-proton elastic scattering. To achieve this, it is necessary to reconstruct the tracks from the positron-proton and electron-proton scattering data collected by the experiment to determine the various kinematic variables needed to identify a clean, luminosity weighted, elastic event sample for both beam species. This is complicated by the inhomogeneous magnetic field, multiple scattering, and energy loss. Furthermore, the acceptance and efficiency for the track reconstruction must be verified by Monte Carlo simulation. The current approaches and status of the track reconstruction will be briefly presented.