The SCT is a silicon strip detector forming a part of the tracking system of the ATLAS experiment at the LHC. The tracking performance of SCT is influenced by several fundamental effects: multiple scattering, Lorentz drift, energy loss variation, noise occupancy, and δ-ray production. In this thesis, the task requested by the SCT detector group has been performed. Clusters containing a δ-ray, which are assigned to a track were studied on data samples, specially prepared for this purpose. A correction to the affected cluster positions was successfully developed. The correction to δ-rays has been implemented into the ATHENA reconstruction framework and its performance was evaluated. A meaningful usage of correction for the detector alignment has been proposed. The ongoing detailed verification of the performance within the event reconstruction is partially beyond the scope of the thesis work.