

In current particle physics field, the progressive detection technologies are used. The pixel detectors are one of them. These detectors are divided into small subdetectors (pixels), which allow viewing exact tracks of the detected particles. This thesis defines criteria for mathematical description of the shape of the particle tracks of different kinds (e^- , γ , p , α , μ) and compares several methods used for a classification –neural networks, decision trees and others. The Pixa software was implemented to process the data measured by pixel detectors. This software implements the characteristics and classification methods and creates statistical and other physical results.