

# R Package - hclustHDCP

## Description

This package deals with one of the classical problem in statistics, called change-point detection method. It attempts to detect abrupt significant changes in probability distributions for a sequence of observations arranged in chronological order. We implement change-point detection for high dimensional observations which works well in low sample size situation as well. This method detects change-points based on hierarchical clustering. The algorithm initially considers each observation as a cluster and at each subsequent step merges two closest consecutive clusters based on linkages (single, average or complete). Hence the number of clusters decreases by one in each step of the algorithm. In case the number of change-points to be detected is known, the algorithm stops when the desired number of clusters is reached. It returns the change-point locations where the cluster membership changes. However, if the number of change-points to detect is unknown, then we make use of some clustering evaluation algorithm like Penalized Dunn index to estimate optimal number of change-points.