ORIGINAL ARTICLE

Application of Change-Point Problem to the Detection of Plant Patches

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Abstract In ecology, if the considered area or space is large, the spatial distribution of individuals of a given plant species is never homogeneous; plants form different patches. The homogeneity change in space or in time (in particular, the related change-point problem) is an important research subject in mathematical statistics. In the paper, for a given data system along a straight line, two areas are considered, where the data of each area come from different discrete distributions, with unknown parameters. In the paper a method is presented for the estimation of the distribution change-point between both areas and an estimate is given for the distributions separated by the obtained change-point. The solution of this problem will be based on the maximum likelihood method. Furthermore, based on an adaptation of the well-known bootstrap resampling, a method for the estimation of

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