

Vectorization of bitmaps based on the LSQ method

Stanislav Bartoň

Agronomická fakulta, Mendelova Univerzita v Brně

The paper presents the software procedure (using MAPLE 11) intended for considerable reduction of digital image data set to more easily treatable extent. The photos taken in high resolution (and corresponding data sets) contain coordinates of thousands of pixels, polygons, vertexes. Presented approach substitutes this polygon by the new one, where smaller number of vertexes is used. The task is solved by use of adapted least squares method. The presented algorithm enables reduction of number of vertexes to 10% of its original extent with acceptable accuracy +/- one pixel (distance between initial and final polygon). The procedure can be used for processing of similar types of 2D images and acceleration of following computations.