

In this paper, a filter based on fuzzy logic is proposed to remove spike noise from 2 dimensional electrical resistivity data. The noise detection used in this paper is based on differentiating noisy samples from the central sample inside a moving window. These fuzzy derivatives are used by the fuzzy inference system to detect corrupted samples. To assess the performance of the proposed filter for the removal of spike noise, the root-mean squared error as well as the signal-to-noise ratio were used as an objective criterion. It has been demonstrated by synthetic and real examples that the proposed filter achieves quite good results compared to the standard median filter as well as to the very effective SD-ROM filter