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Preprocessing of Network-MT data contaminated by leak currents to obtain the accurate MT response functions (4)

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We have reported preprocessing methods of Network-MT electric field data contaminated by railway leak currents for estimating the accurate MT response functions. In previous studies we show that preprocessing methods using multiple classification analyses (PCA and ICA) were effective to reduce large railway leak current noise and improve the accuracy of MT response functions. Howerver, some problems have been left unresolved; the selection method of components corresponding to railway leak currents, azimuthal dependence of the effect of noise reductione, and etc. In this study we will report results of a noise reduction method using median filter, which is a nonlinear digital filter and preserves step-like changes that are characters of railway leak currents.

Keywords: Network-MT electric field data, Noise reduction, railway leak currents, multivariable analysis, median filter