

Interactive comment on “Background noise estimation of geomagnetic signal” by Xiuyi Yao et al.

Anonymous Referee #2

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The authors have to know that elimination of background noise from every signal, including geomagnetic variations, is possible only if the spectra of these processes are different. Other more sophisticated methods as, e.g., directional analysis, are not considered here. When the geomagnetic variations with noise are approximated by a set of Fourier harmonics, the noise entering the signal band is also automatically approximated. On the other hand, the excluded part of the signal, which is considered by the authors as a noise, for example with a period less than 540 s, as in the paper, contains Pc1-Pc5 pulsations, important for the analysis of geomagnetic activity. Because of this the described procedure is harmful for further scientific analysis of the collected data. To this, the proposed approach suffers with the absence of a correct mathematical analysis of the original signals and any acceptable procedure for increasing the signal-

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to-noise ratio, as well as a convincing statistical base. There are also several smaller comments as to text quality but no sense to discuss them as far as I believe that the described in the paper procedure is harmful and the paper has not be published.

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