**The article of the research team was published in the international scientific publication of the first quartile**

A scientific article in English "[NOCFASS](https://www.sciencedirect.com/science/article/pii/S0263224121009477?dgcid=author): Quantitative description of the seismic noise-like signals in the earthquake-prone areas" by the team of authors was published in the journal in the top-rated scientific journal of the first quartile [*Measurement*](https://www.sciencedirect.com/journal/measurement)*: Journal of the International Measurement Confederation* published by Elsevier.

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**Highlights**

• NOCFASS-method makes additional excess of frequencies for the fitting procedure.

• The fitting parameters for trendless fluctuations of ambient seismic noise are given.

• The reduced dispersion law is expressed as a linear function Ωk = *a⋅k + b*.

• The relative error evaluating the fitting procedure is less than 2 %.

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**Abstract**

Non-Orthogonal Combined Fourier Analysis of the Smoothed Signals (NOCFASS) helps to extract the reduced/invariant spectrum from the total Fourier-spectrum that contains a small number of frequencies with the linear dispersion law Ωk = a⋅k + b. The paper presents a new technique to treat original data of natural processes like seismic ambient noise, measured by the seismic gradient system with geophones on the surface. The authors show an example of the signal processing (July 14th-16th 2018) in the Ukok-2 point located in Tien Shan. A wide set of signals with a trend that is obtained from the set of initial trendless sequences (TLS) by means of integration procedure. This selected spectrum with eliminated high-frequency components is considered as an invariant spectrum, which contains only the basic low-frequency modes. The results are useful for the further detection of different random factors that disturb the TLS behavior.

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