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SGNoise, a tool for the noise level analysis of superconducting gravimeters

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Stations equipped with superconducting gravimeters (SGs, more than 30 instruments distributed worldwide) are currently cooperating within the frame of Global Geodynamics Project (GGP, Inter-Commission Project of the International Association of Geodesy). The basic question when SGs are used for relevant geophysical studies is connected with data quality. The noise level at stations can be disturbed from different kind of sources (instrumental problems, local noise, earthquakes etc.). The easily accessible and relevant information about the noise level can be helpful for both operators and data users. In the first case it can help for the fast detection and solution of the problem. In the second case, for data users, the graphic information about the noise level within the SG network can be very helpful for consequent data handling. The presented programming tool SGNoise utilize the basic principles of open source program PQLX which is used for noise level analysis of seismometers in the IRIS network. The SGNoise uses power spectral densities and probability density functions for a visualization by such a way to be: 1) straightforward for mutual comparisons of SGs and seismometers, 2) able to create outputs appropriate for monitoring SG noise in near real time.