

Seminar: “WAVEPAL: A Python software for the frequency and wavelet analyses of irregularly sampled time series”

24/05/2018 - 16:00

AMGC Seminar Thursday May 24 2018 – 16.00 h

By Guillaume Lenoir “WAVEPAL: A Python software for the frequency and wavelet analyses of irregularly sampled time series”

I will present the Python package WAVEPAL which performs frequency and time-frequency analyses of irregularly sampled time series without interpolating the data. The frequency analysis is based on the Lomb-Scargle periodogram and the WOSA smoothing method. The time-frequency analysis is performed with the Morlet wavelet scalogram, which is carefully designed to accommodate for an irregular time sampling. Moreover, the package proposes significance testing against a large choice of background processes, extending the traditional choice between a Gaussian white noise and a Gaussian red noise. The software also provides tools for filtering the signal.

Software: <https://github.com/guillaumelenoir/WAVEPAL>

Related publications: <https://www.nonlin-processes-geophys.net/25/145/2018/> and <https://www.nonlin-processes-geophys.net/25/175/2018/>

