

# WHAT A PHYSICIST CAN LEARN FROM A SOMNOLOGIST?

## Summary

There is controversy concerning the proper fractal scaling of human EEG. In order to resolve it we applied the most commonly used algorithm — detrended fluctuation analysis (DFA) to the time series generated using a fundamental model of statistical

physics: the Ornstein-Uhlenbeck Langevin equation whose scaling properties can be determined analytically. In the process we uncovered the totally unexpected difference between time and ensemble averaging for this stationary and ergodic model.