

## Identification problems in exponential analysis

### Abstract:

Estimating the spectral information of an exponential sum plays an important role in many signal processing applications. In particular, we mention nuclear magnetic resonance (NMR) spectroscopy and the direction of arrival (DOA) problem in smart antenna technology.

We present a parametric method that can circumvent the Shannon-Nyquist sampling rate and break the curse of dimensionality. Our method can retrieve high-resolution information from coarse-scale measurements. In the multivariate case, we can identify and separate distinct multivariate parameters from the minimal number of samples.

This is joint work with Annie Cuyt.