

Abstract: The spectral density plays a pivotal role in time series analysis. Since the classical spectral density is defined as the Fourier transform of autocovariance functions, it fails to capture the distributional features. To overcome this drawback, we consider the spectral density based on copula and show the weak convergence of integrated copula spectra. This result combined with the subsampling procedure enables us to construct uniform confidence bands, a test for time-reversibility, and a test for tail symmetry. This talk is based on joint work with T. Kley (Georg-August-Univ. Gottingen), R. Van Hecke (Ruhr-Univ. Bochum), S. Volgushev (Univ. of Toronto), H. Dette (Ruhr-Univ. Bochum), and M. Hallin (Univ. libre de Bruxelles).