

# Correlations in Optics and Quantum Optics;

A series of lectures about correlations and  
coherence November 2022

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BOS.QT



## Lectures

- From statistics and linear algebra to power spectral densities
- Historical perspectives and examples in many areas of physics
- Correlation functions in classical optics i (field-field; intensity-intensity)
- Correlation functions in classical optics ii (field-intensity)
- Correlation functions in classical optics iii
- Optical Cavity QED
- Intensity correlations in Cavity QED
- Conditional dynamics for control.
- Correlations of field and intensity in Cavity QED.
- From Cavity QED to waveguide QED.