Speckle-based spectrometer - DTU Orbit (31/07/2017)

Speckle-based spectrometer

A novel spectrometer concept is analyzed and experimentally verified. The method relies on probing the speckle displacement due to a change in the incident wavelength. A rough surface is illuminated at an oblique angle, and the peak position of the covariance between the speckle patterns observed in the far field with the two wavelengths reveals the wavelength change. A spectral resolution of 100 MHz is argued to be achievable.

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