



Wednesday, July 21st, 2021 – 2 pm, Lecture IV

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Intensity Correlation Speckles Removes Doppler and Collisional Broadening

A method involving intensity correlation measurements is described, which allows for the complete removal of Doppler broadening in the emission of electromagnetic radiation from faraway sources that are inaccessible to conventional Doppler-free measurements. The technique, relying on a correction to $g(2)$ of order N^{-1} , probes the separation between neighboring spectral lines and is also applicable to the elimination of broadening due to collisions (N is the number of emitting particles and $g(2)$ is the second-order field correlation function). Possible applications include a determination of cosmological parameters from redshifts of gravitationally lensed quasars.

Host: Andrea Cavalleri

