

Correlation measurement of squeezed light

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We have demonstrated an implementation of the correlation measurement technique (Hanbury-Brown and Twiss type experiment) to the characterization of the polarization squeezed light source. We have shown that the sign of the covariance coefficient is determined by the statistics of the incoming light state, representing in this way a useful tool for studying squeezed light. Moreover, in contrast to the standard approach for the measurement of the squeezed light (direct detection of variation of sum and difference photocurrents), the correlation measurements allow to eliminate any kind of electronic noise, which become a crucial issue in experiments with weak squeezed light.