Shack-Hartmann tomography and Laguerre-Gaussian beam characterization

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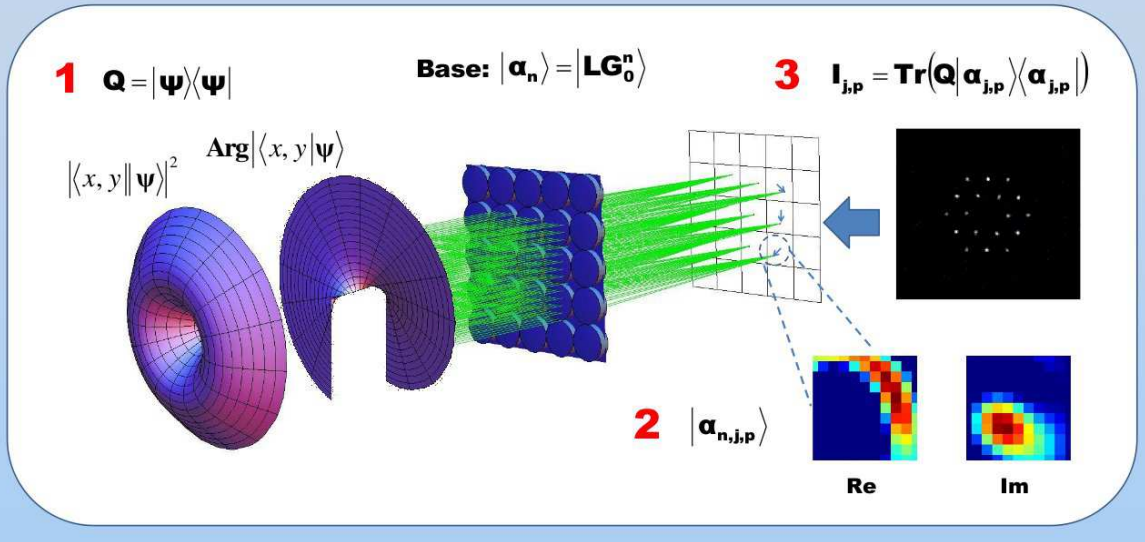
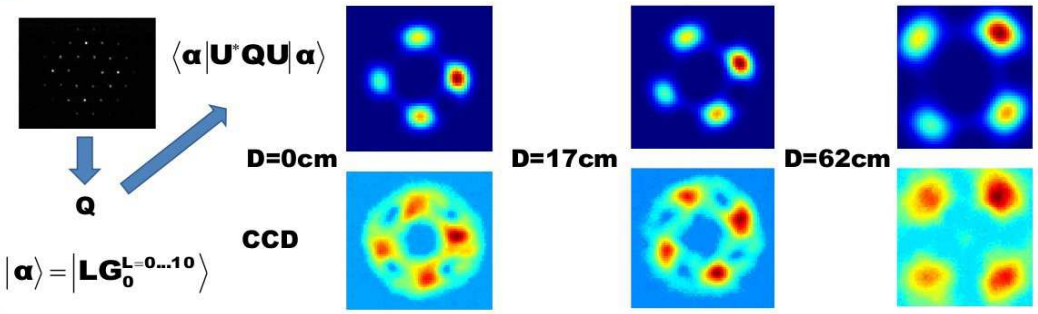
Motivation

The Shack-Hartmann sensor can be used to reconstruct the mutual coherence matrix of the incident signal by recasting its response in a quantum language. Should this overcome the sensor limitations of Laguerre-Gaussian beams measuring?

Methods



Results



Discussion

Propose method provide following advantages for LG beams characterization:

- **Proper description of the phase profile with dislocations**
- **Mode decomposition of the field**
- **Description of coherence properties of the field**

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