Docket #: S05-125

Optical image processing and femtosecond spectroscopy using minimum phase functions

A method processes an optical image. The method includes providing a measured magnitude of the Fourier transform of a two-dimensional complex transmission function. The method further includes providing an estimated phase term of the Fourier transform of the two-dimensional complex transmission function. The method further includes multiplying the measured magnitude and the estimated phase term to generate an estimated Fourier transform of the two-dimensional complex transmission function. The method further includes calculating an inverse Fourier transform of the estimated Fourier transform, wherein the inverse Fourier transform is a spatial function. The method further includes calculating an estimated two-dimensional complex transmission function by applying at least one constraint to the inverse Fourier transform.

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Applications

- To improve the performance of optical image processing and
- femtosecond spectroscopy using minimum phase functions

Patents

- Published Application: 20070025638
- Published Application: WO2006107795
- Published Application: 20100067827

- Published Application: 20120099803
- Issued: 7,643,952 (USA)
- Issued: 8,082,117 (USA)
- Issued: 9,170,599 (USA)

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