



ID de Contribution: 26

Type: **Oral presentation**

Deflectometry applied to freeform and large optical surface metrology

vendredi 28 février 2020 17:15 (15 minutes)

Deflectometry is a slope acquisition metrology process for specular surfaces. The large dynamic of spatial frequency measured as well as the in-situ capabilities of deflectometry makes it a promising complementary metrology tool in the optical fabrication context.

However, systematic errors in low frequency shape reconstruction, prevent deflectometry from being an independent metrology process, as well as high frequency errors due to the shape reconstruction inversion and propagation of non linear display error through Phase Shift algorithm.

To achieve high frequency independent measurement, we have developed models of propagation through data processing algorithms, from which we designed bias robust inversion algorithms.

We present here these new algorithmic approaches and experimental results which demonstrates their efficacy (in comparison to interferometry measurements).

Field

Instrumentation

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Classification de Session: Talk

Classification de thématique: Astrophysics