

# CMOS vs. CCD sensors in speckle interferometry

Heinz Helmers\*, Markus Schellenberg

*Institut für Physik, Carl von Ossietzky Universität Oldenburg, PF 2503, D-26111 Oldenburg, Germany*

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## Abstract

In the field of interferometric metrology the use of high resolution CCD sensors with  $1024 \times 1024$  to  $2048 \times 2048$  pixels is predominant. Due to special features (e.g. random pixel access, characteristic curve) CMOS sensors with similar resolution can be an interesting alternative. We compare some characteristics of both sensor types that are important for interferometry and demonstrate two exemplary applications that are only possible by using CMOS cameras.

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## 1. Introduction

For some time CMOS cameras have been discussed as

an alternative to CCD cameras. In some cases we use the nonlinear characteristic curve of the camera in order to realize deformation measurements for an object with strongly varying reflectivity. In the other case we use

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For further information:

[Heinz.Helmerts@uni-oldenburg.de](mailto:Heinz.Helmerts@uni-oldenburg.de)

\* Corresponding author. Tel.: +49-441-798-3512; fax: +49-441-798-3576.

E-mail address: [heinz.helmerts@uni-oldenburg.de](mailto:heinz.helmerts@uni-oldenburg.de) (H. Helmers).

some  $\mu\text{V}/\text{e}$ . Full-frame-transfer (FF or FFT) sensors do not have separate storage cells. In these sensors the image information after exposure is shifted line by line in a horizontal register and from there pixel by pixel to the sense node.