

Cycle de Conférences d'IRIMAS 2019

19 février 2019 à 11h45

AMPHI-Nord – IUT Mulhouse

**IMAGEURS ET ECRANS COURBES
PRINCIPES – FABRICATION – APPLICATIONS**

Assemblage et packaging au département d'optique du LETI

Dr David HENRY

CEA-Leti - Grenoble

david.henry@cea.fr

CEA-Leti develops specific techniques to curve and package normally flat electronic components. This technology helps significantly reduce optical component size and achieve higher level of performance and compensation for optical aberrations. Tunable curvature technology is also being developed for adjustable shape.

One can obtain up to 60% reduction in lens size in some cases without altering the quality of the image, and in particular, this peculiar technique helps for minimizing the vignetting effect, enhance the field of view and the luminosity.

The technique can be adapted to curve various optical components—2D & 3D imagers, IR sensors or microdisplays

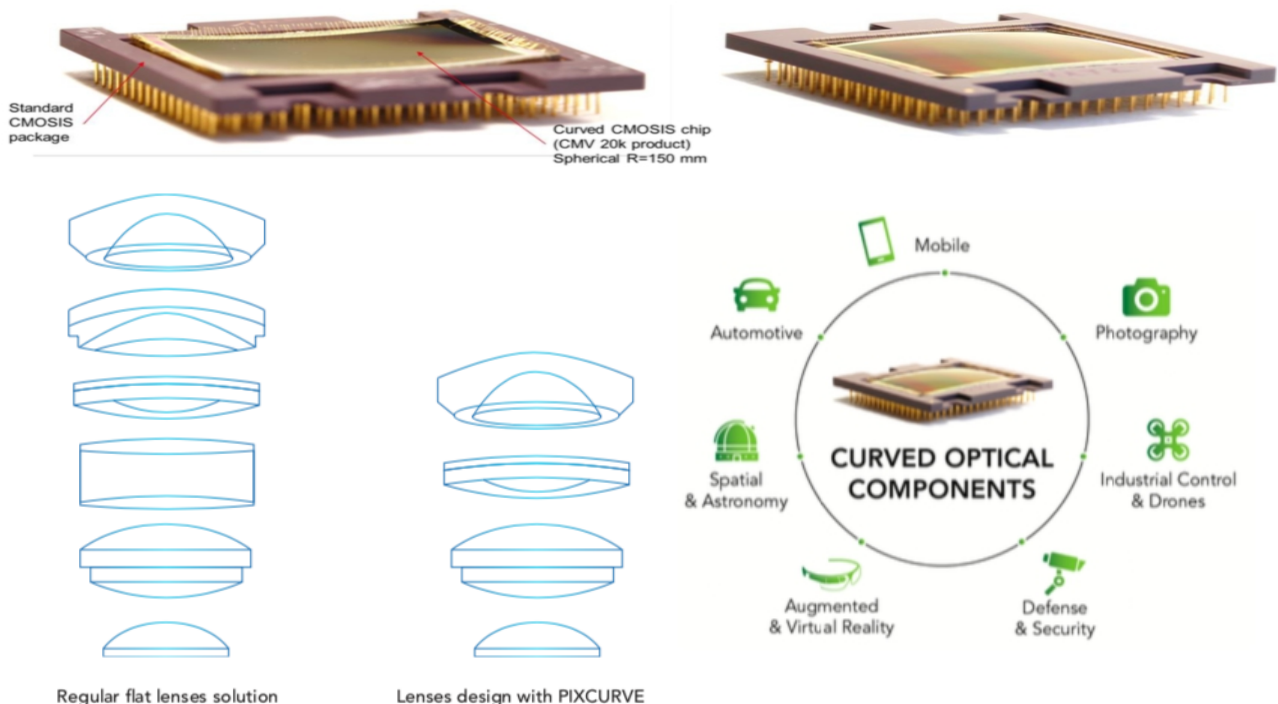


Fig. 1. Haut : Capteurs CMOS courbés (courbure positive et négative). Bas : exemple de gain en complexité possible pour objectif utilisant un capteur courbe, par rapport à un objectif classique, et applications potentielles

Références

Gaschet, C. et al, "Curved sensors: a new era for imaging", Optics Express 2018.
 Chambion, B. et al, "Curved Full-Frame CMOS Sensor: Impact on Electro-Optical Performances", ESTC 2018
 Gaschet, C. et al, "Curved sensors for compact high-resolution wide field designs", Proc. SPIE Vol. 1037603, 2017