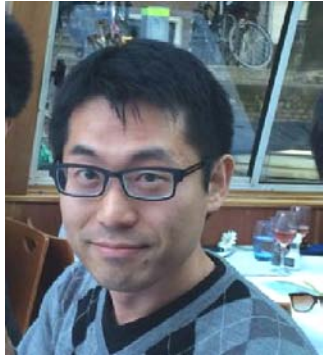


Phase camera experiment

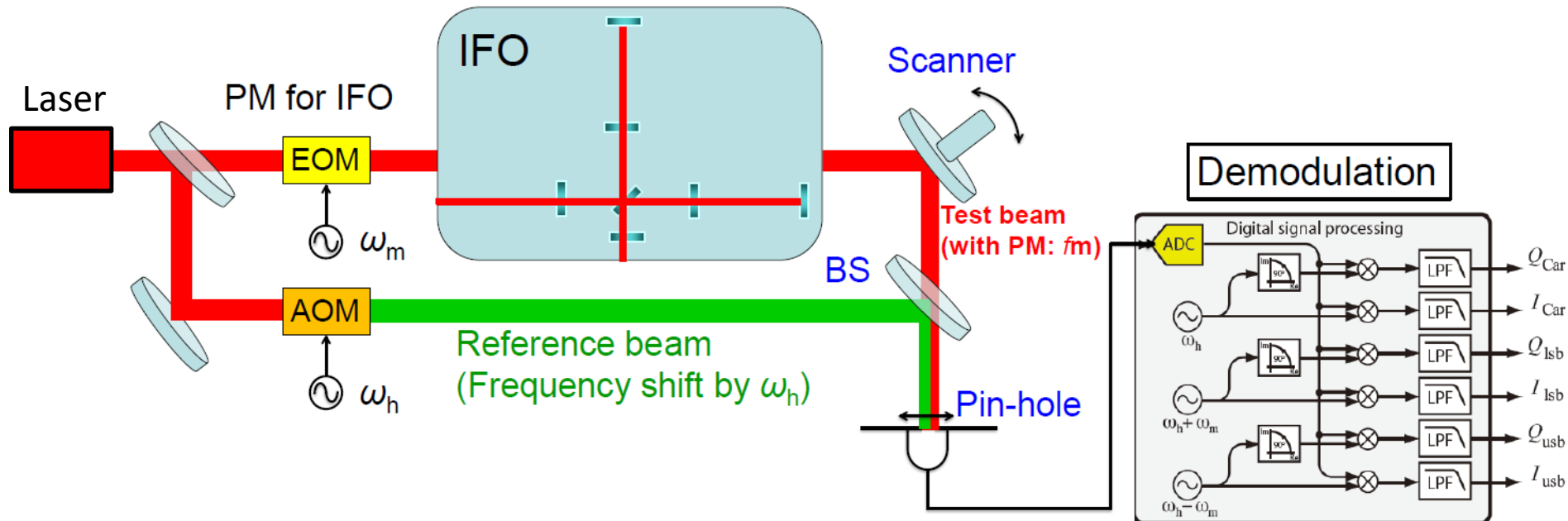
(for Advanced Virgo)

Kazuhiro Agatsuma, Martin van Beuzekom, Mesfin Gebyehu, Laura van der Schaaf, Jo van den Brand

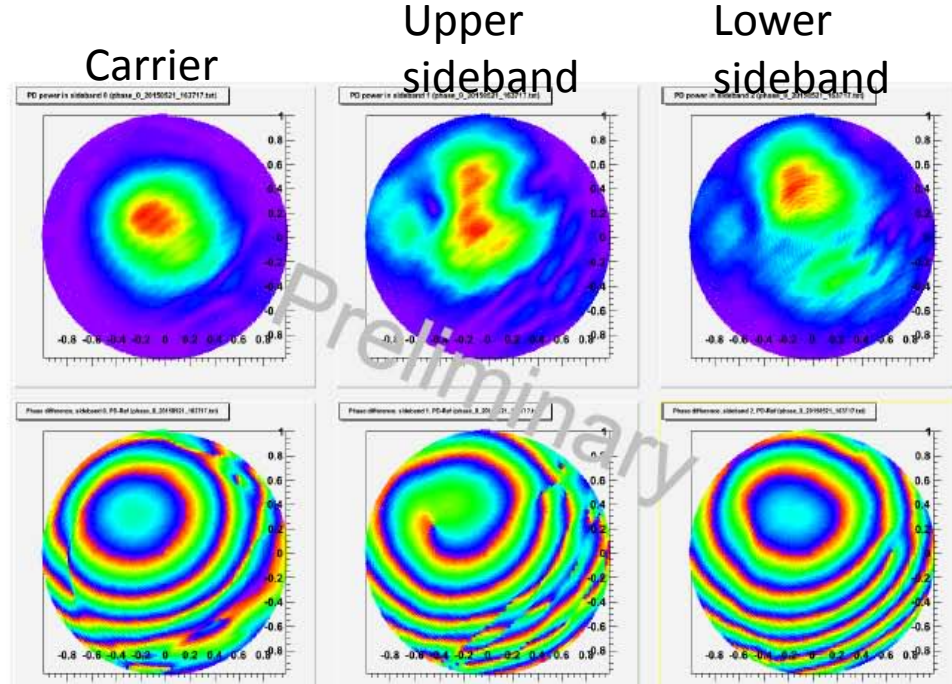
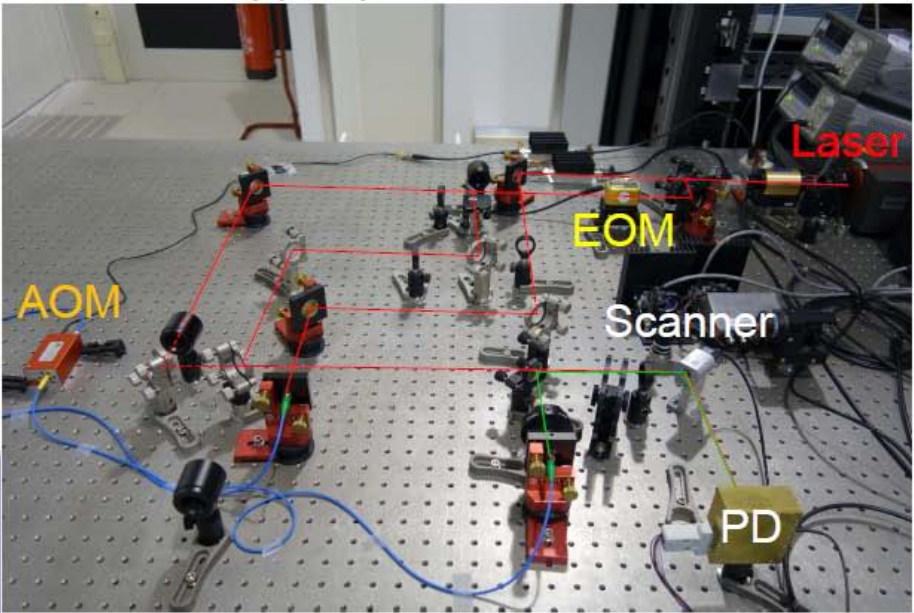


We report on a **frequency selective wave front sensor** used for monitoring **sidebands** and **aberrations** in a gravitational wave detector

- ◆ Heterodyne detection
- ◆ Scanning wave front with pin-hole PD



● Prototype phase camera

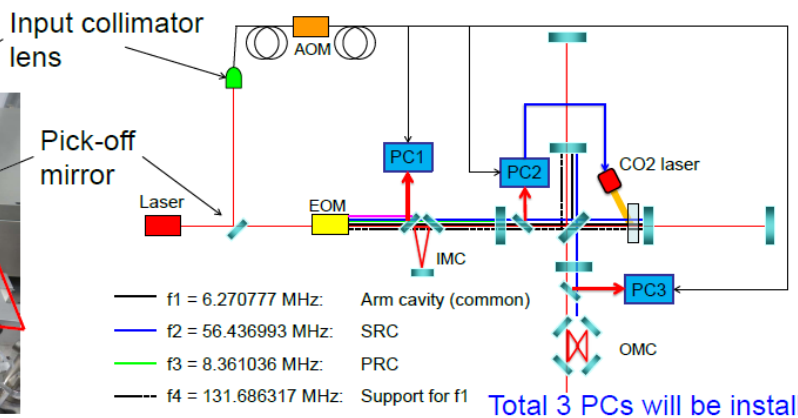
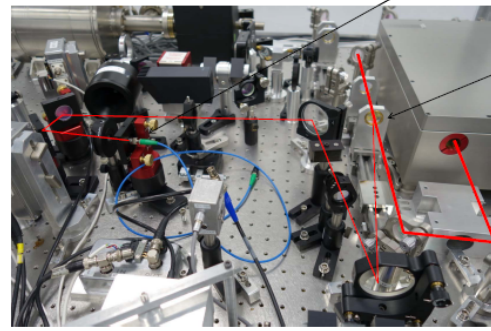


We have developed a prototype phase camera and are checking integrated performance
Expected sensitivity is better than 2 nm

● Installation in Advanced Virgo



Advanced Virgo is a gravitational wave detector in Pisa



- $f1 = 6.270777$ MHz: Arm cavity (common)
 - $f2 = 56.436993$ MHz: SRC
 - $f3 = 8.361036$ MHz: PRC
 - $f4 = 131.686317$ MHz: Support for $f1$
 - $f5 = 22.38$ MHz: Input MC
- Total 3 PCs will be installed**
 PC1: Input beam (Laser bench)
 PC2: Power recycling cavity (EPRB)
 PC3: Output beam (EDB)

We have just started to install optics