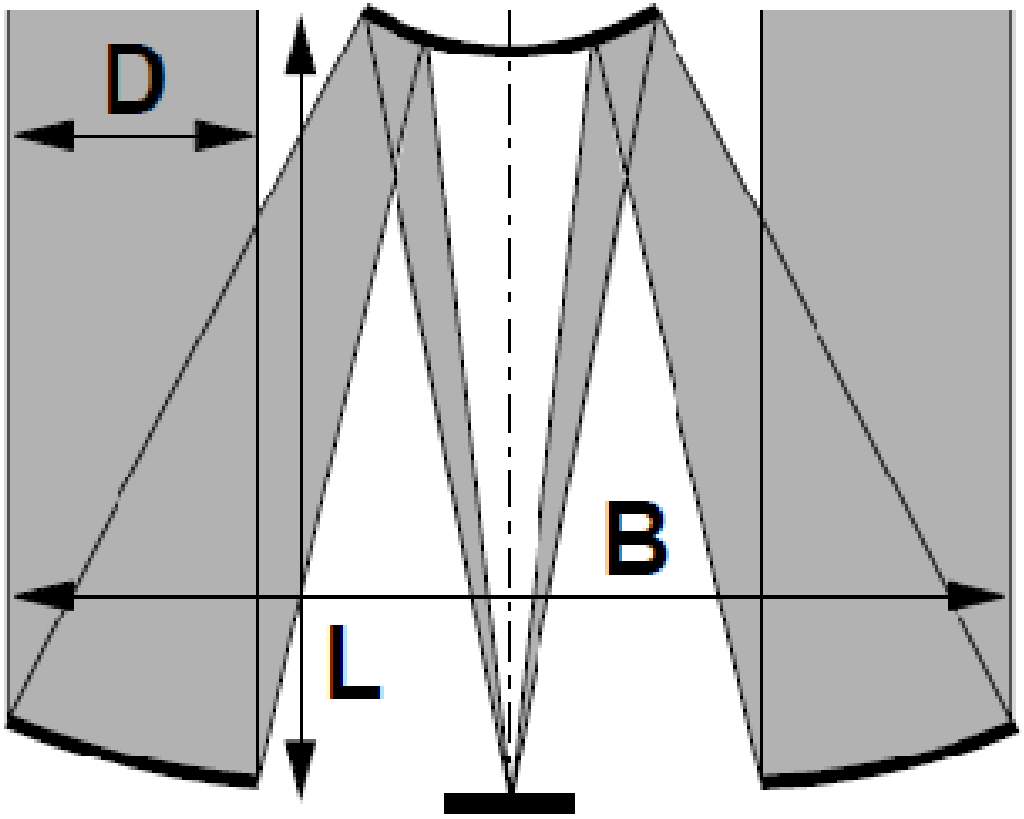
Geostationary Observation of Surface Changes

Rémi MICHEL
remi.michel@cea.fr

Reviewed in June 2009 by the Scientific Committee of Cnes (TOSCA)

An Opportunity from two Requests

✓Ground Resolution of 5m is achievable with a monolithic telescope
✓Enhanced resolution can be derived from co-phased telescopes:



✓Fizeau or Michelson Interferometer
✓Up to D= ϕ5m with Ariane V
✓Keck, JWST, DARWIN
✓Eath Observation:
✓Resolution [1;5]m

Synthetic Aperture Optics

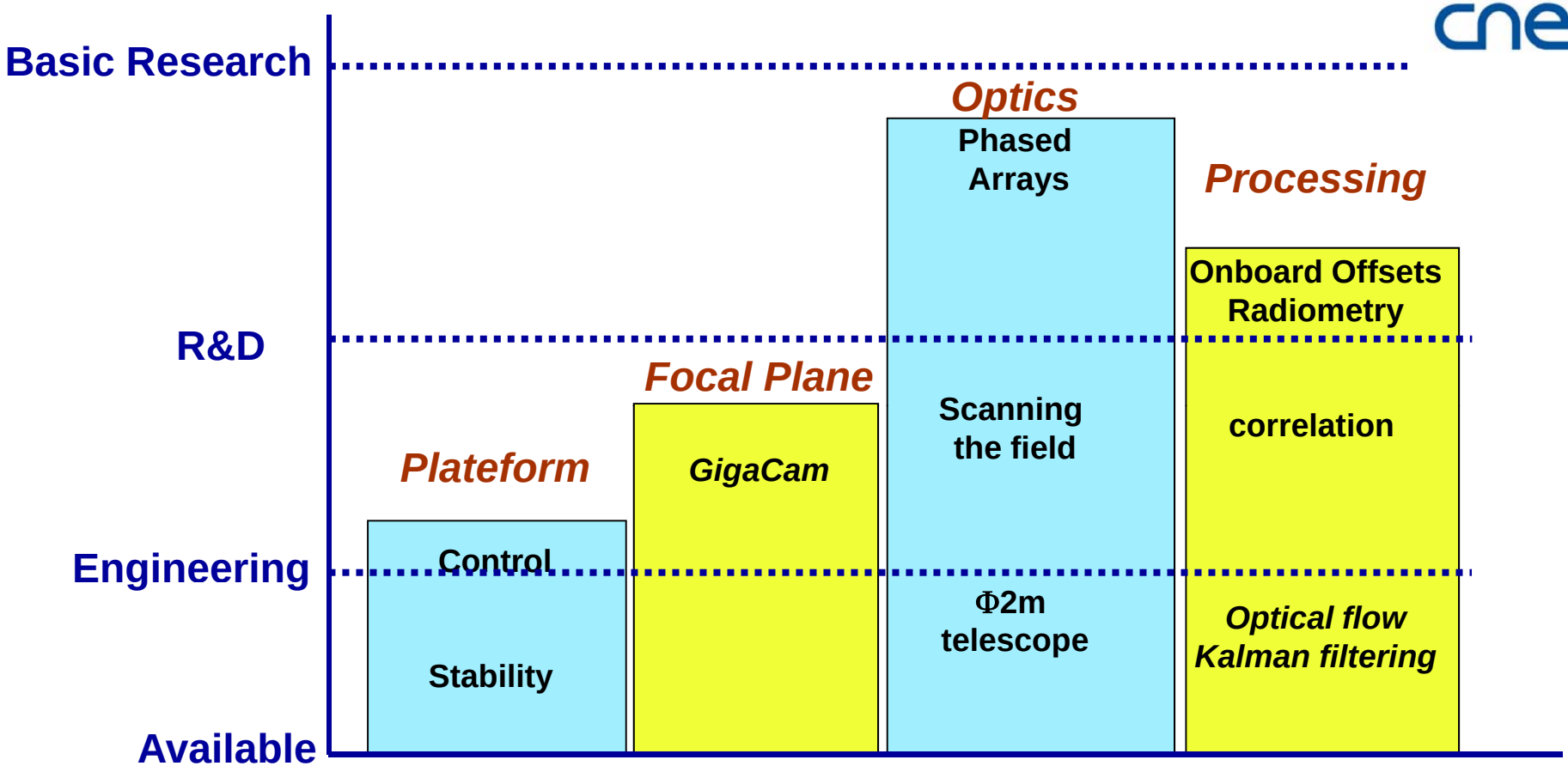
Thematic Goals

- ✓Systematic and Permanent Estimate of Offsets from Optical Imagery
- ✓Science : Toward Seismology
- ✓Other : Crisis management, early warning
- ✓As a complement to ongoing geostationary optical concept projects

Performances (ϕ 5 m aperture)

- ✓2D horizontal Offsets maps
- ✓few cm in sensitivity
- ✓100 m in spatial sampling
- ✓]0; 1 Hz] in temporal sampling
- ✓Regional coverage

Thematic Goals and Technology Performance



Technology Readiness Level