

Fringe tracking

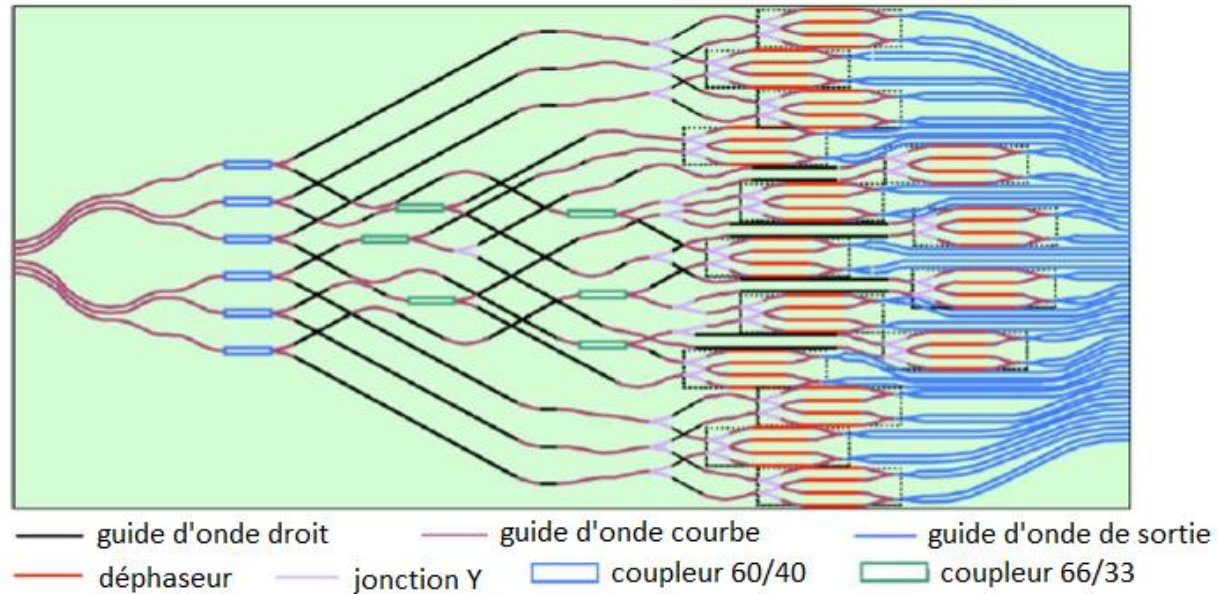
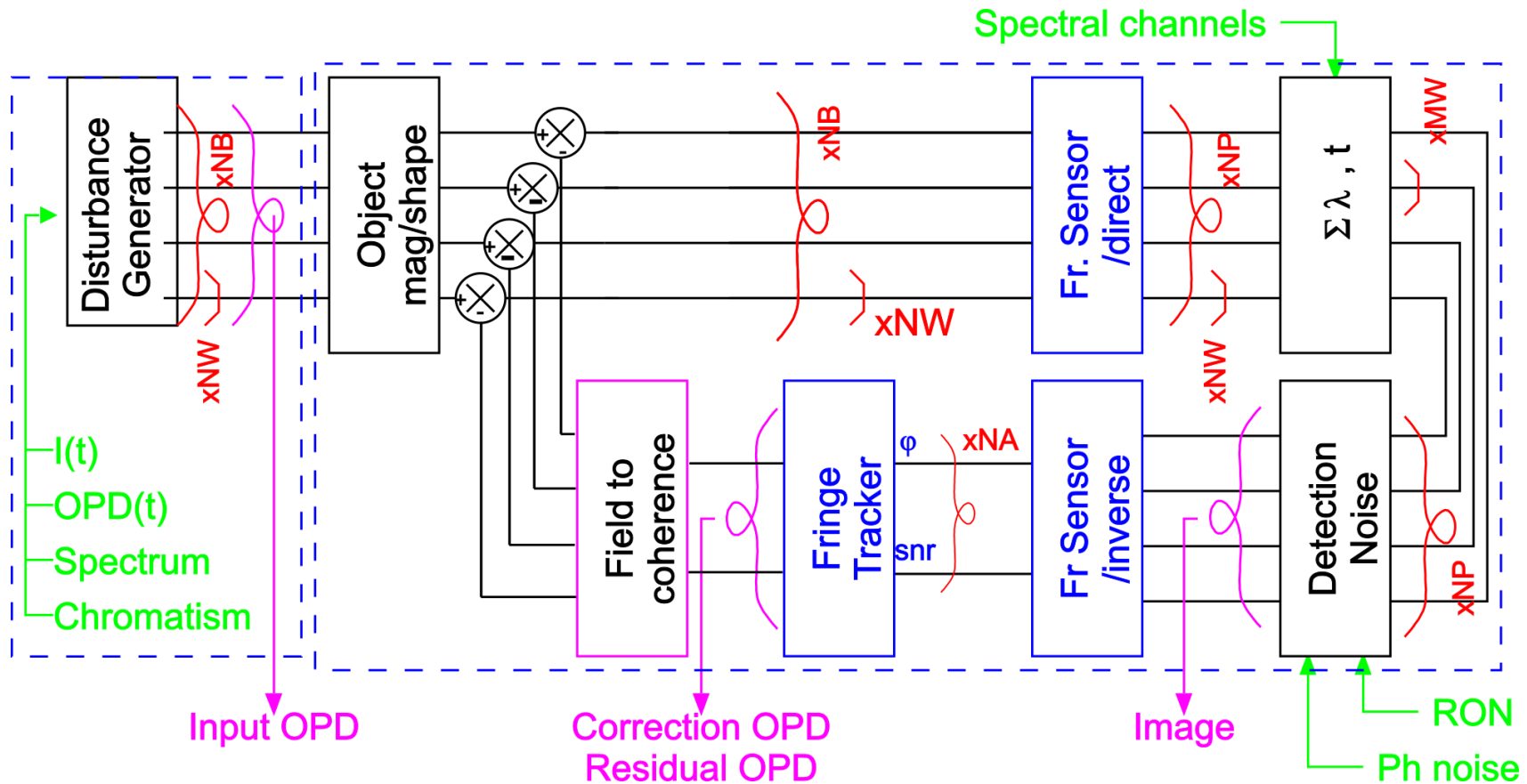


Fig. 1. Schéma du recombineur ABCD à 6 télescopes qui sera utilisé sur SPICA. Par souci de clarté, l'échelle verticale est doublée par rapport à l'échelle horizontale. crédit: Labeye PhD, 2008

Fringe tracking

The numerical simulator



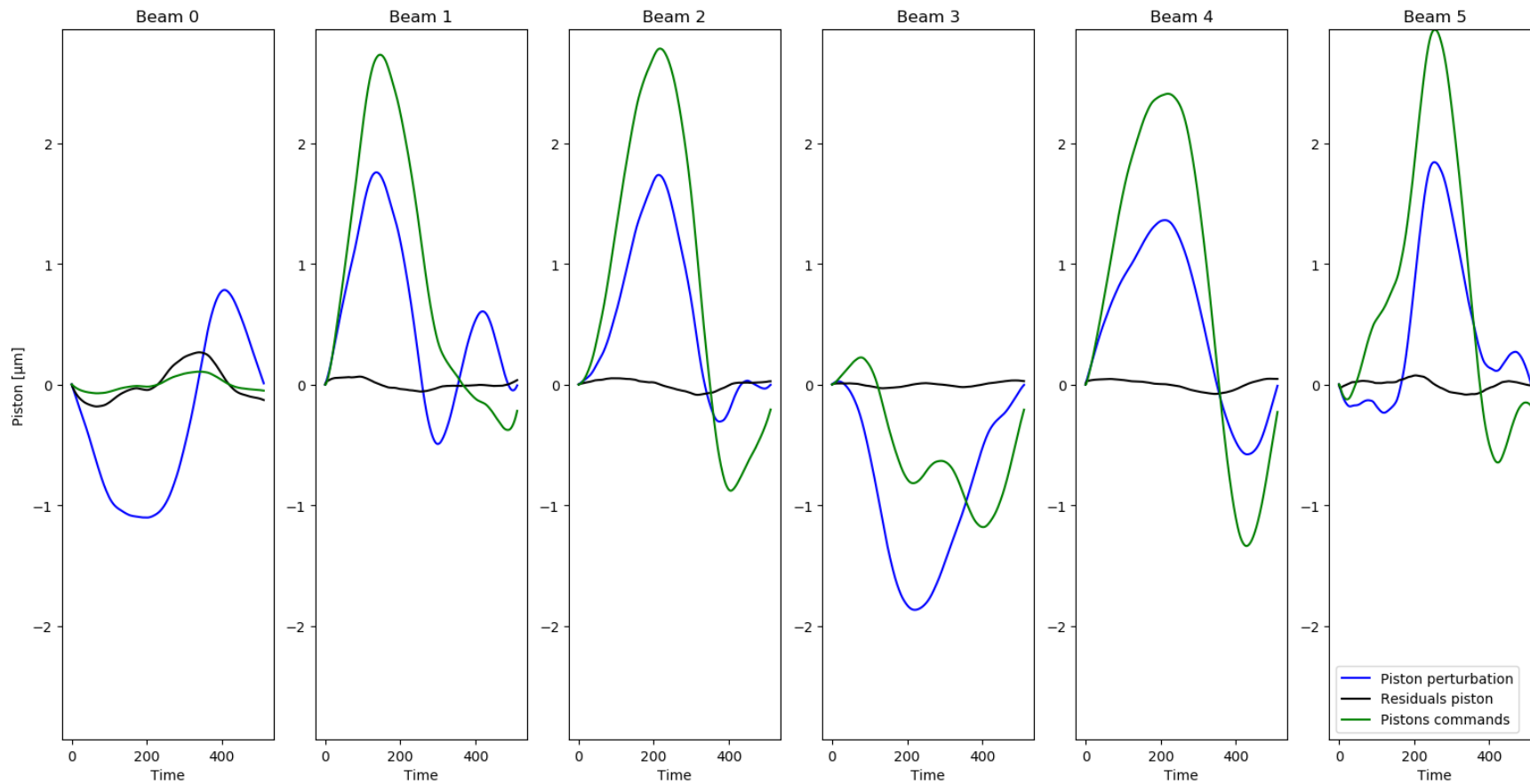
Fringe tracking

What the simulator currently does

- Piston perturbation: random or slope
- Fringe sensor: perfect V2PM of SPICA-FT ABCD combiner
- Calculator: integrator
- Optical delay lines: perfect, no response time

Fringe tracking

System response to a random piston perturbation



Fringe tracking

What's next ?

- Piston perturbation: representative perturbations, same as SPICA-FT
- Fringe sensor: using real SPICA-FT's V2PM, photo&detector noises
- Calculator: work on Kahlmann
- Delay lines: temporal response
- Characterization of the fringe tracker: Transfer function of the instrument → comparison with SPICA-FT (same input, same output data)
- **Being as close to SPICA-FT as possible**