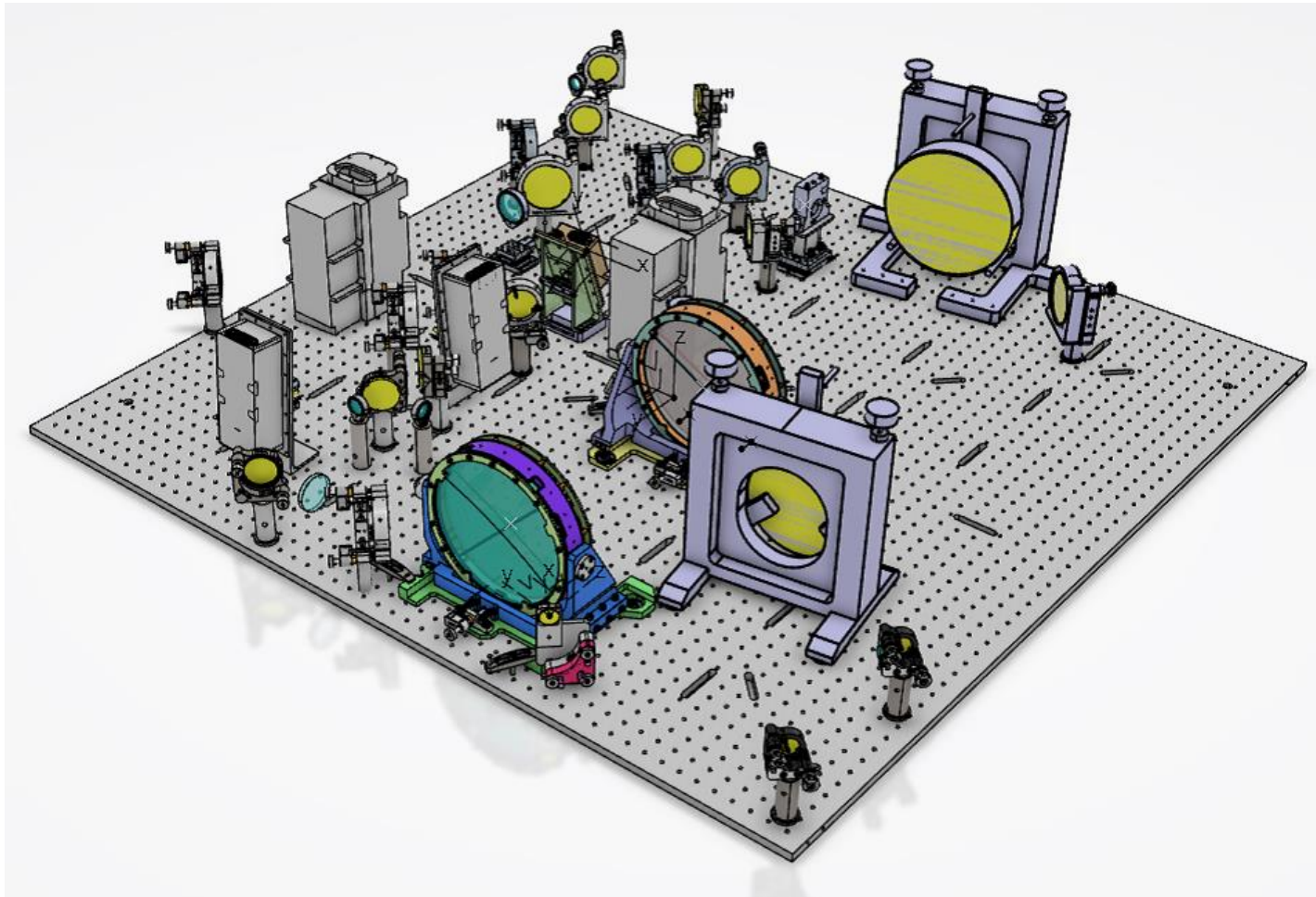


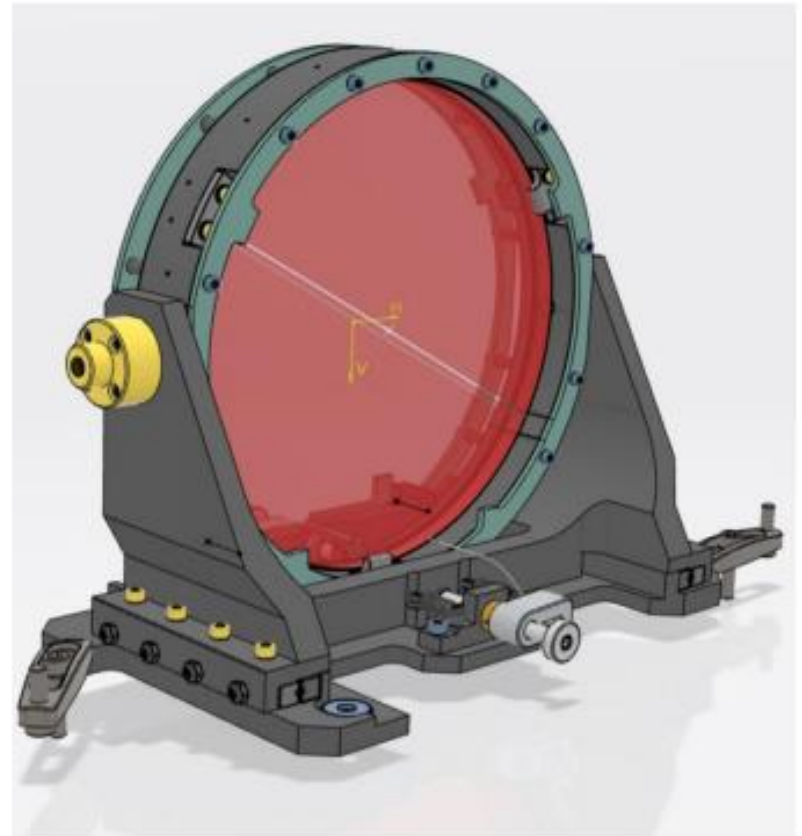
SNEB MECHANICAL DESIGN

Kévin BIERNACKI, Alain GIVAUDAN, Maurice KARAKAC

- Began the project in May 2022 in replacement of W.Bertoli
- Long time spent for tolerancing study

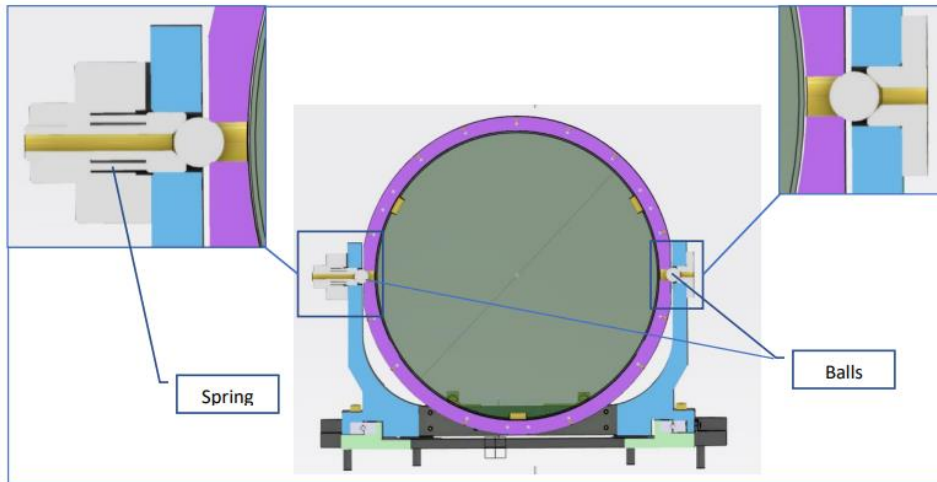


➤ SNEB L1 and L2 mounts:

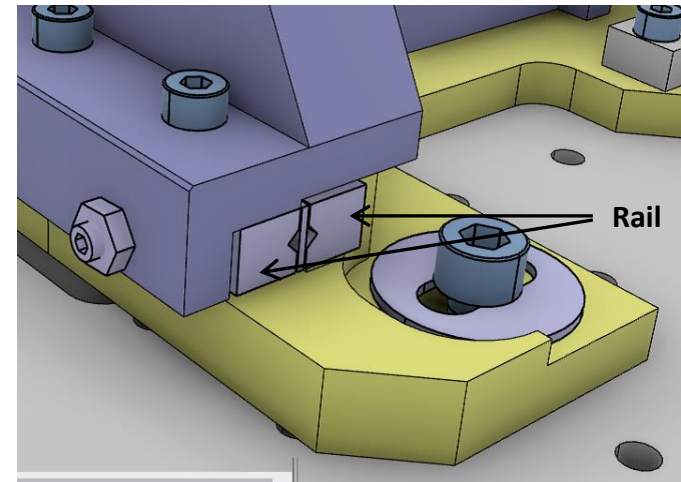


- Design very similar
- Lens diameter: 203,2mm
- Weight: 4,8 Kg (margin of 8%)

➤ SNEB L1 and L2 mounts shiftings:



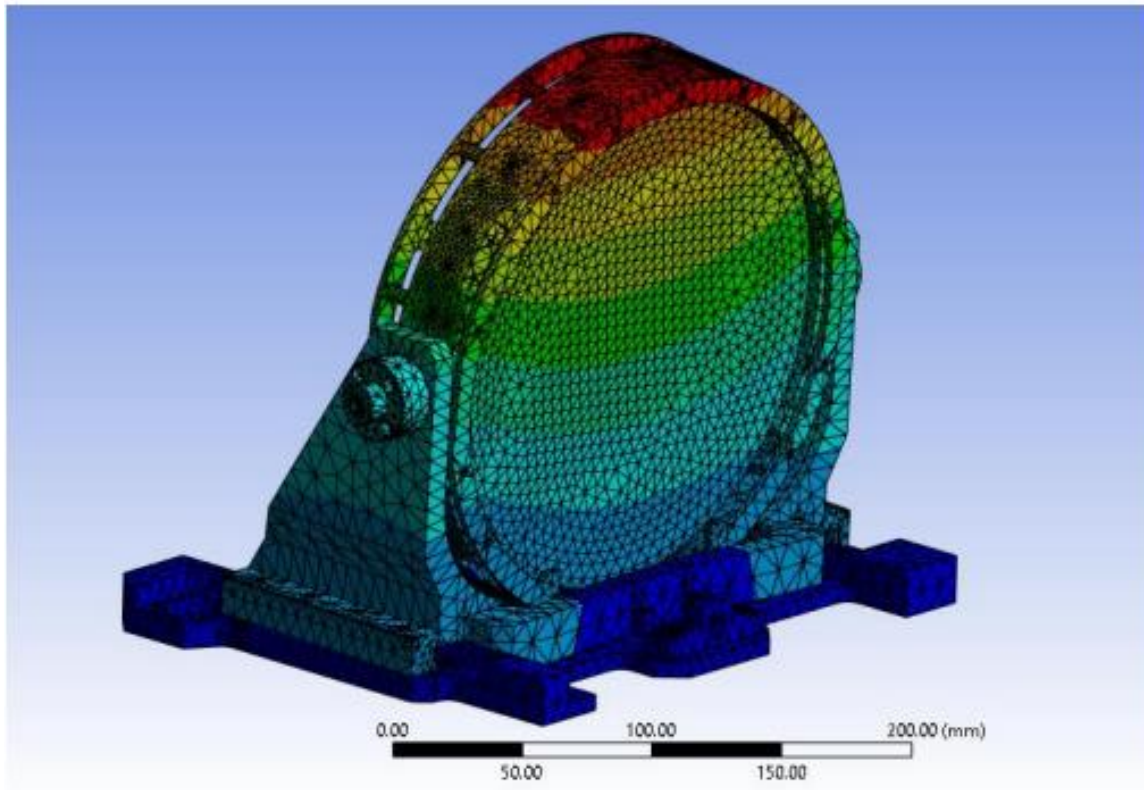
Rotation system



Translation system

	Translation			Tilt		
	X (horizontal axis)	Y (optical axis)	Z (vertical axis)	X (horizontal axis)	Y (optical axis)	Z (vertical axis)
In air	Manually ($\pm 3.5\text{mm}$ range) *	Manually or picomotor ($\pm 12.5\text{mm}$ range)	No adjustment	With picomotor (± 6 deg range)	No adjustment	Manually ($\pm 1^\circ$ range) *
Under vacuum	No adjustment	Picomotor ($\pm 12.5\text{mm}$ range)	No adjustment	With picomotor (± 6 deg range)	No adjustment	No adjustment

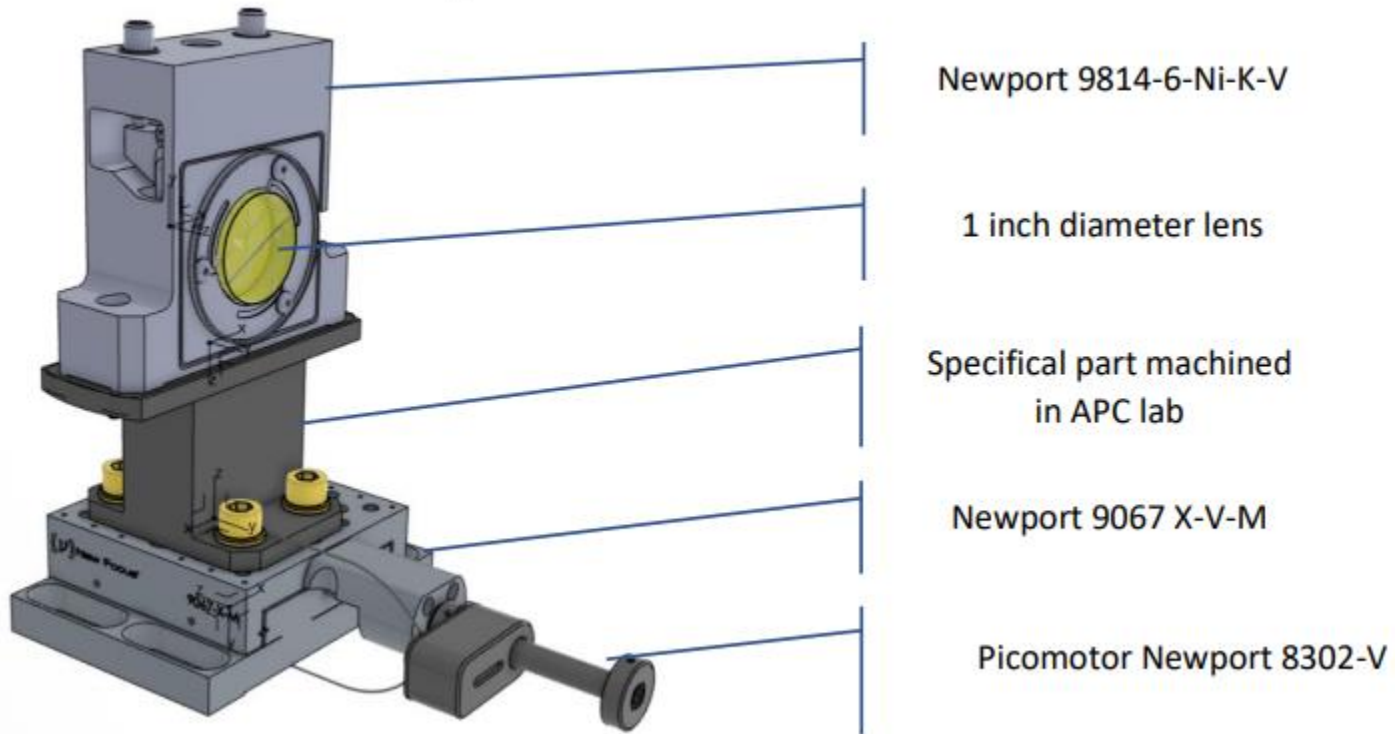
➤ Mechanical analysis:



Geometry studied in order to improve the rigidity of the mount

First mode of modal analysis of L1 / L2 mount ~ 190 hz

➤ SNEB L3 mount :



- Lens diameter: 1 inch
- Weight: 1,6 Kg (margin of 8%)

➤ SNEB L3 mount shiftings:

	Translation			Tilt		
	X (optical axis)	Y (horizontal axis)	Z (vertical axis)	X (optical axis)	Y (horizontal axis)	Z (vertical axis)
In air	Manually (± 6.5 mm) or picomotor (± 12.5 mm range)	Manually (± 5 mm)	No adjustment	No adjustment	Manually with a screw ($\pm 4^\circ$ range)	Manually with a screw ($\pm 4^\circ$ range)
Under vaccum	Picomotor (± 12.5 mm range)	No adjustment	No adjustment	No adjustment	No adjustment	No adjustment