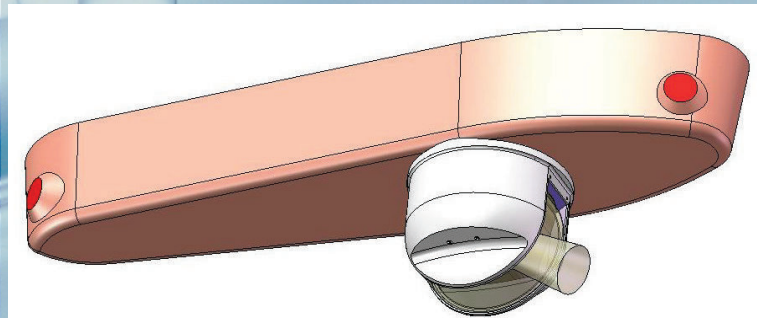


PRELIMINARY DESIGN OF OPTICAL
TURRET FOR **CASAM** SYSTEM



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- Mário Vaz
- Nuno Ramos
- Rui Guedes

In this file we can see the actual version of the turret design. This is the INEGI 1.0 version and integrates all the previous good solutions for the fork (Figure 1).

Minor modifications could be done to the fork, according to the on going FEM analysis, to obtain the requested fork eigenmodes.

In this version, the gap between the centers of inertia of the mirror assembly and the assembled fork is lower than the requested.

We are also presenting our propose for the external geometry of the DOME (Figure 2). The actual shape seems original and is now being studied to obtain it's CFD (please note that the upper section is open because we don't how the turret is fixed to the POD).

For the USM and ENCODER we are proposing the assembly sequence for better comprehension (Annex A).

However, some minor details **MUST** be addressed:

- The optics layout that was sent us *is still* different from the discussed one. (The center of the head mirror has 1mm or 1,28mm of eccentricity?);
- In the sent layout (1mm of eccentricity) the head mirror hits the intermediate mirror during rotation!!

For the intermediate mirror adjustment, to be used in the demonstration prototype, we propose a micrometer positioning device (Figure 3).

In Annex B, it can seen the turret assembly.

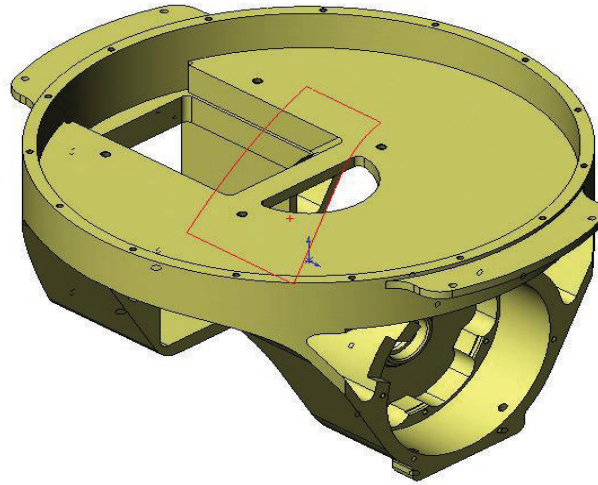


Figure 1 – FORK (click on the picture to enter in 3D mode)



Figure 2 – DOME (click on the picture to enter in 3D mode)

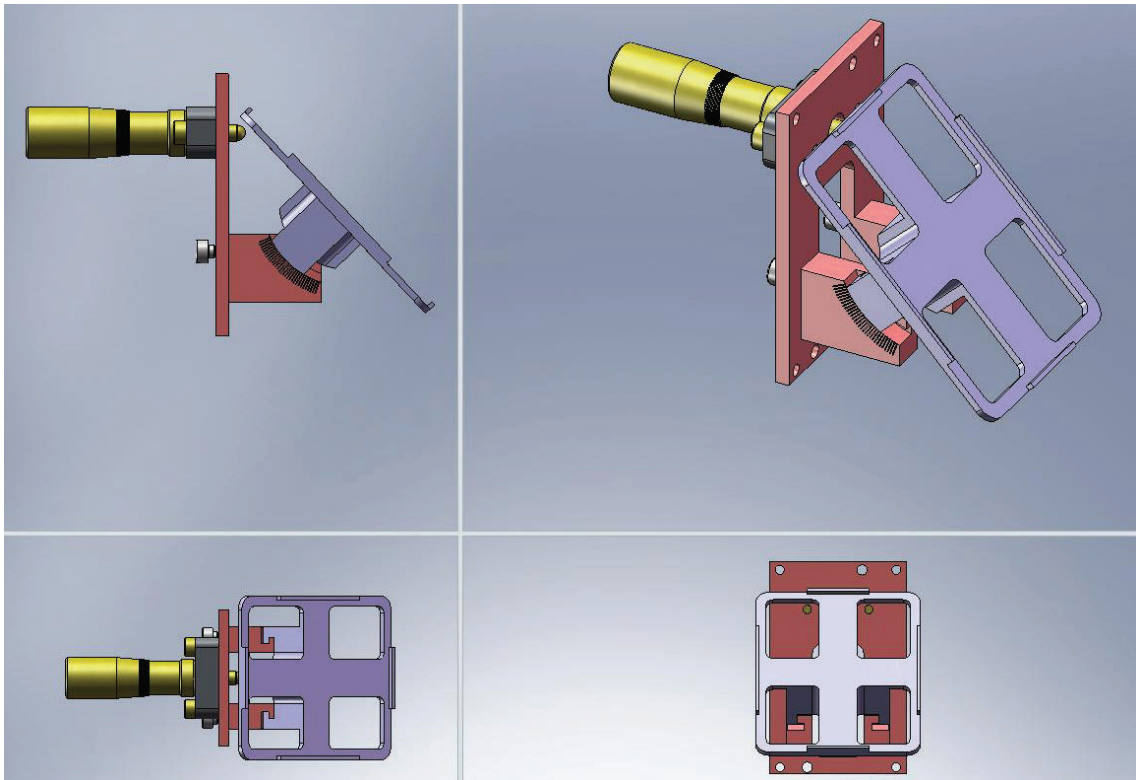
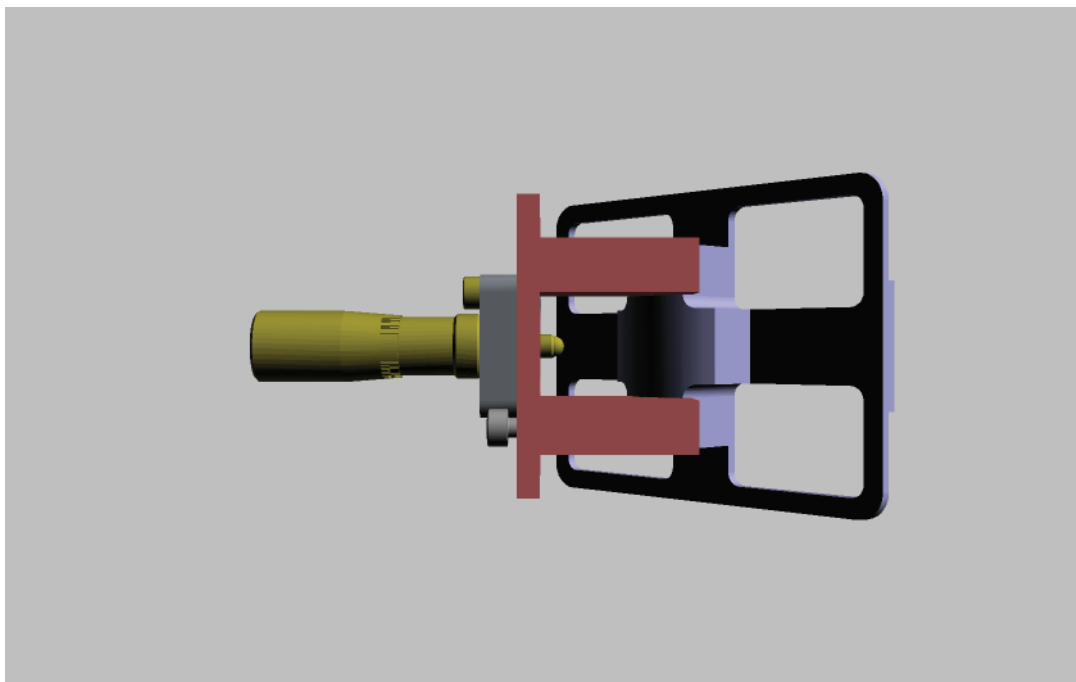
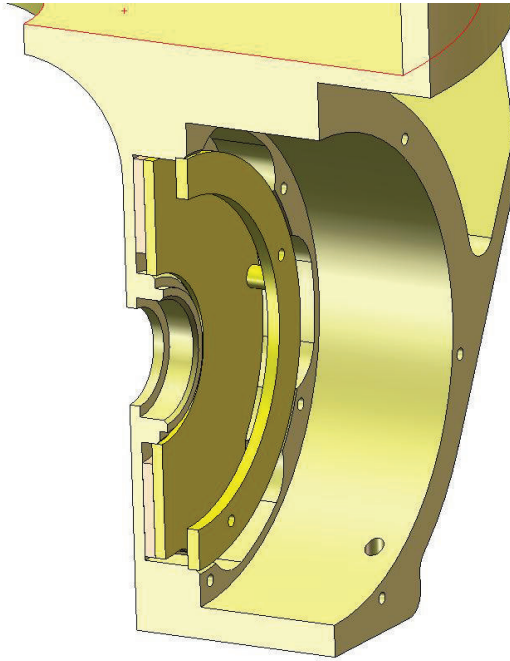


Figure 3 – Intermediate Mirror Adjustment

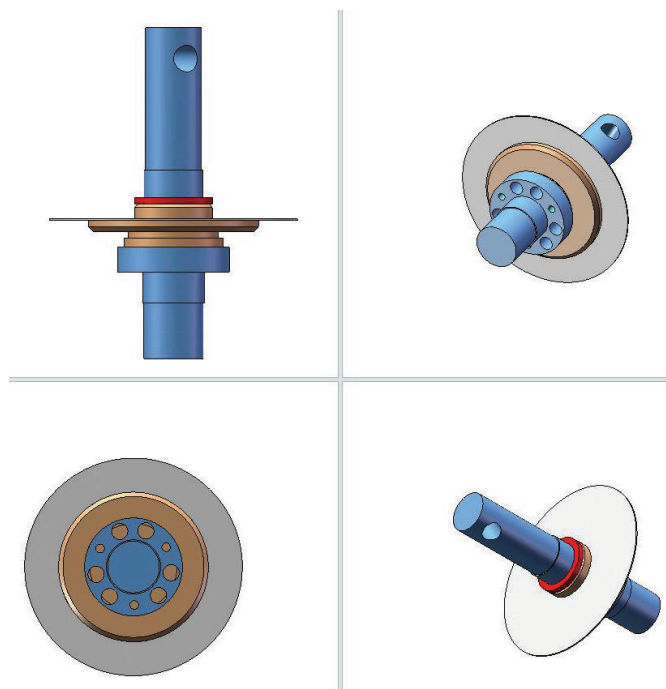


(click on the picture to enter in 3D mode)

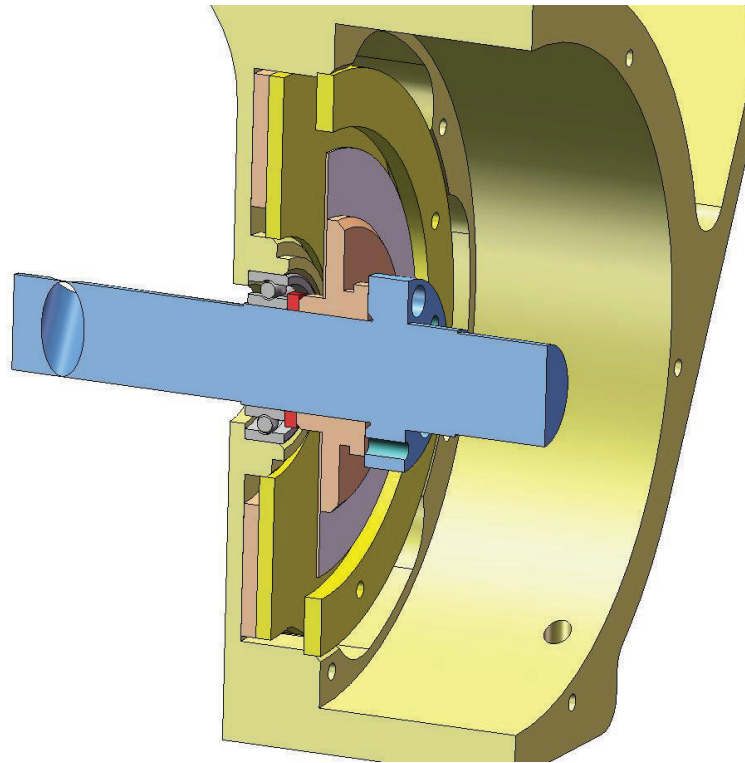
Annex A



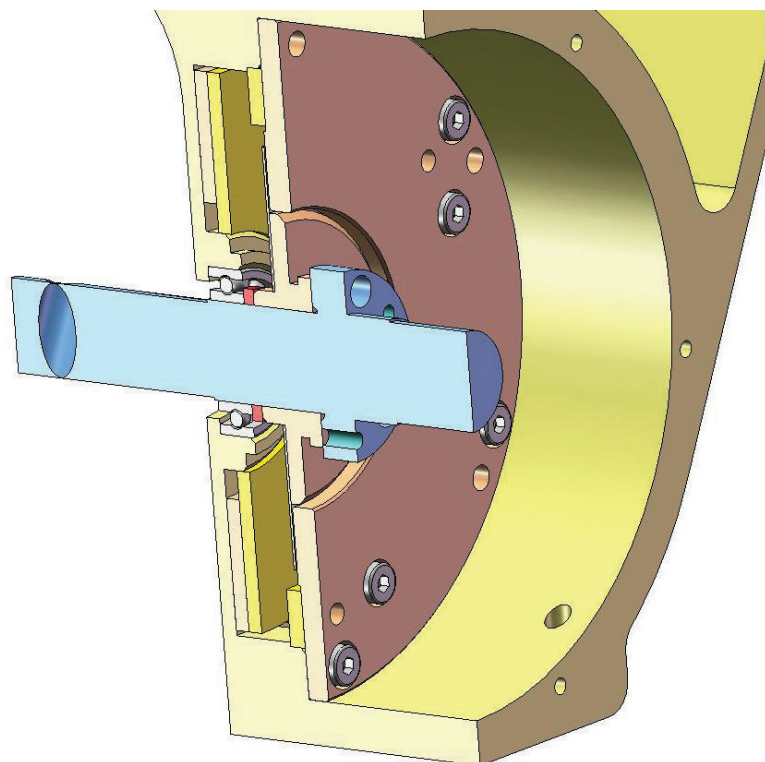
Step 1



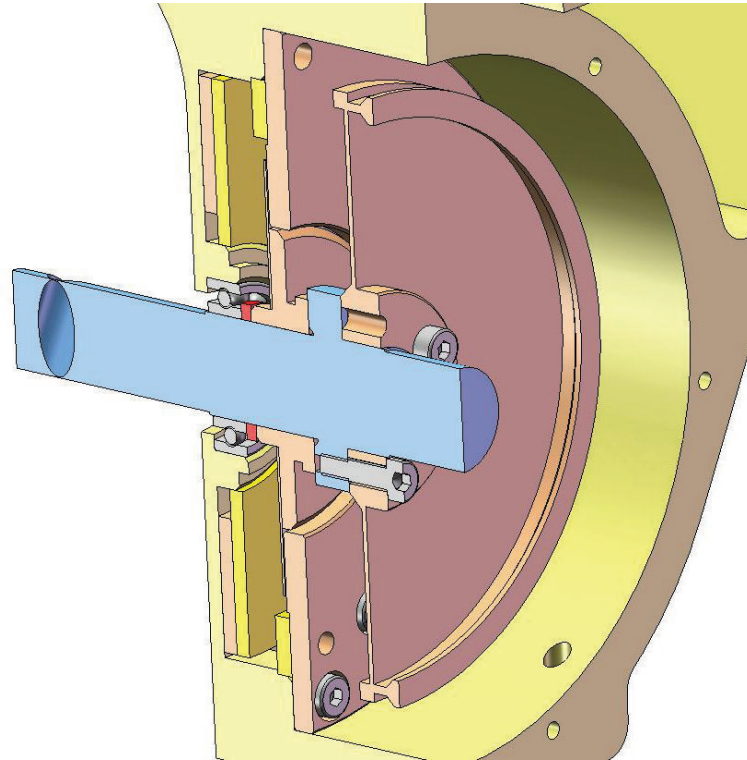
Step 2



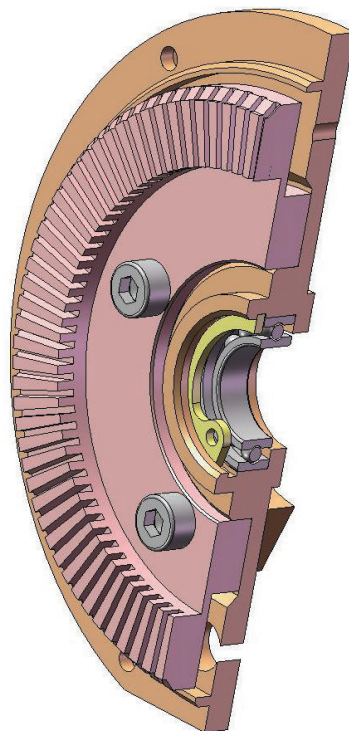
Step 3



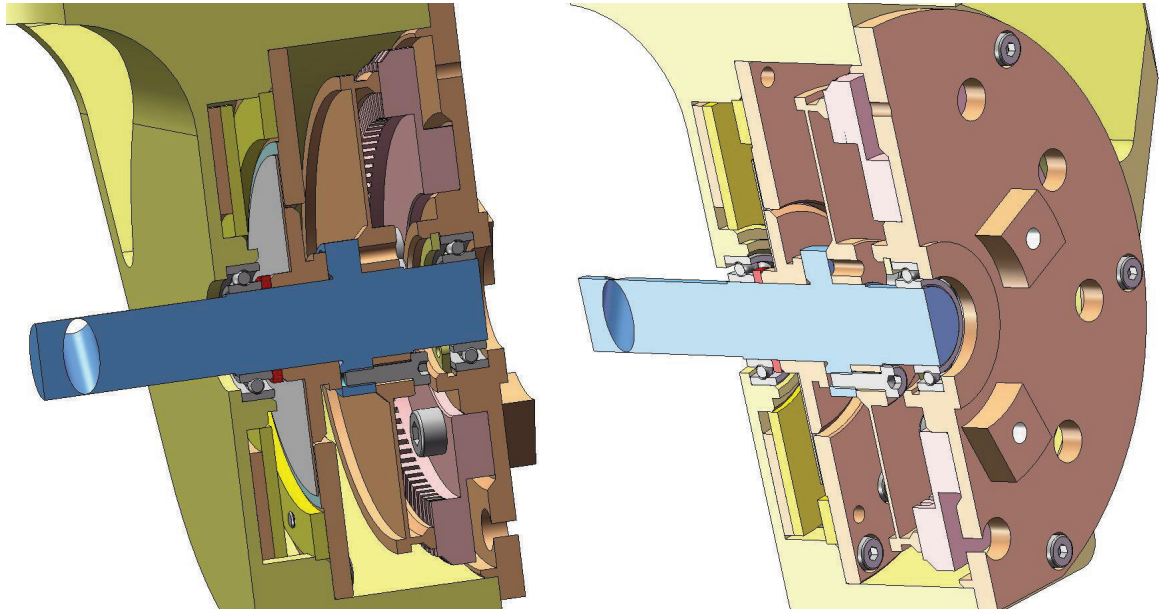
Step 4



Step 5



Step 6



Step 7

Annex B

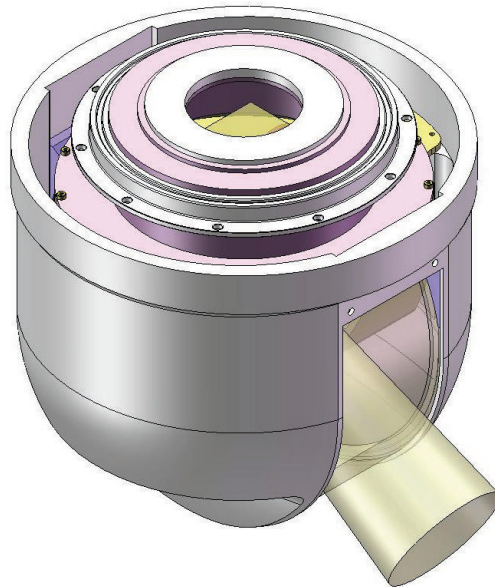


Figure 4 – TURRET 1

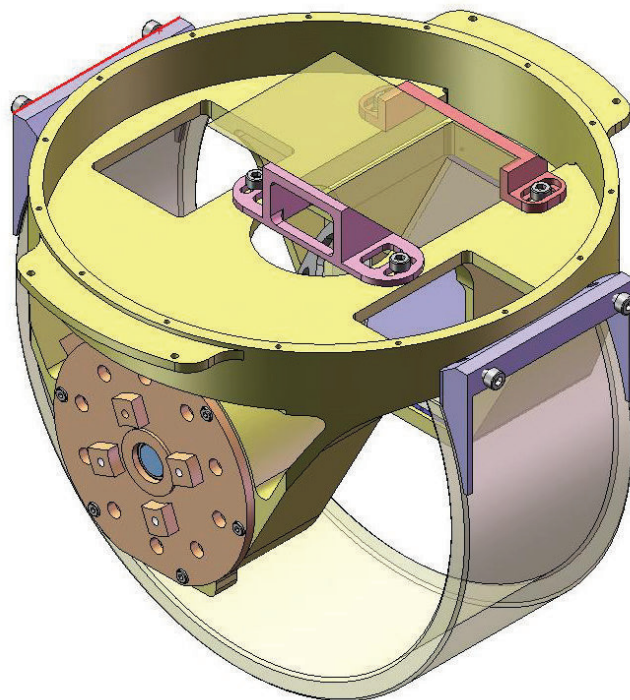


Figure 5 – TURRET 2

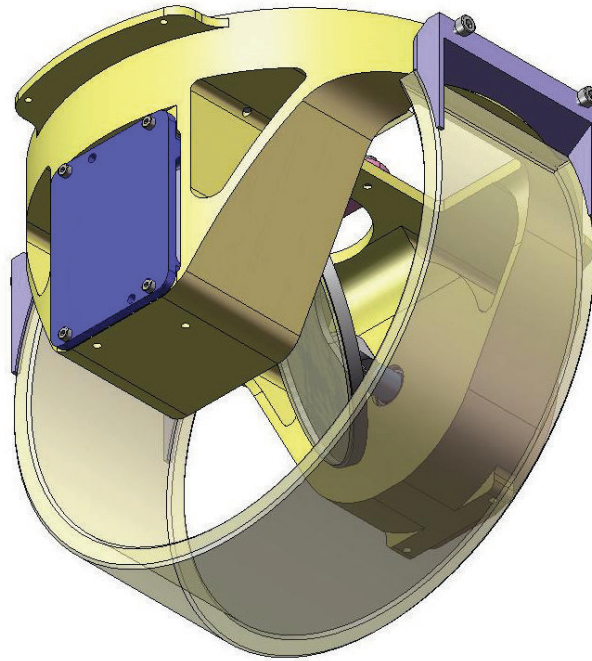


Figure 6 – TURRET 3

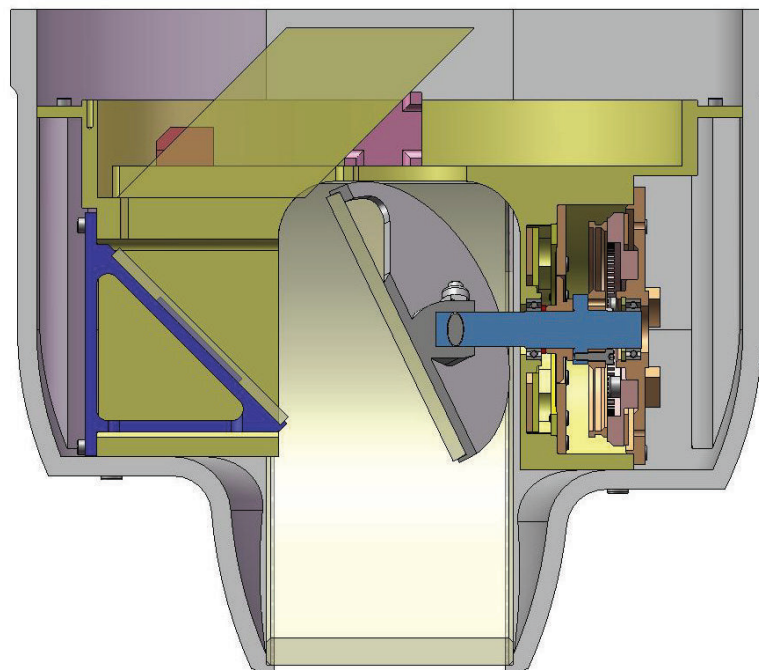


Figure 7 – TURRET 4