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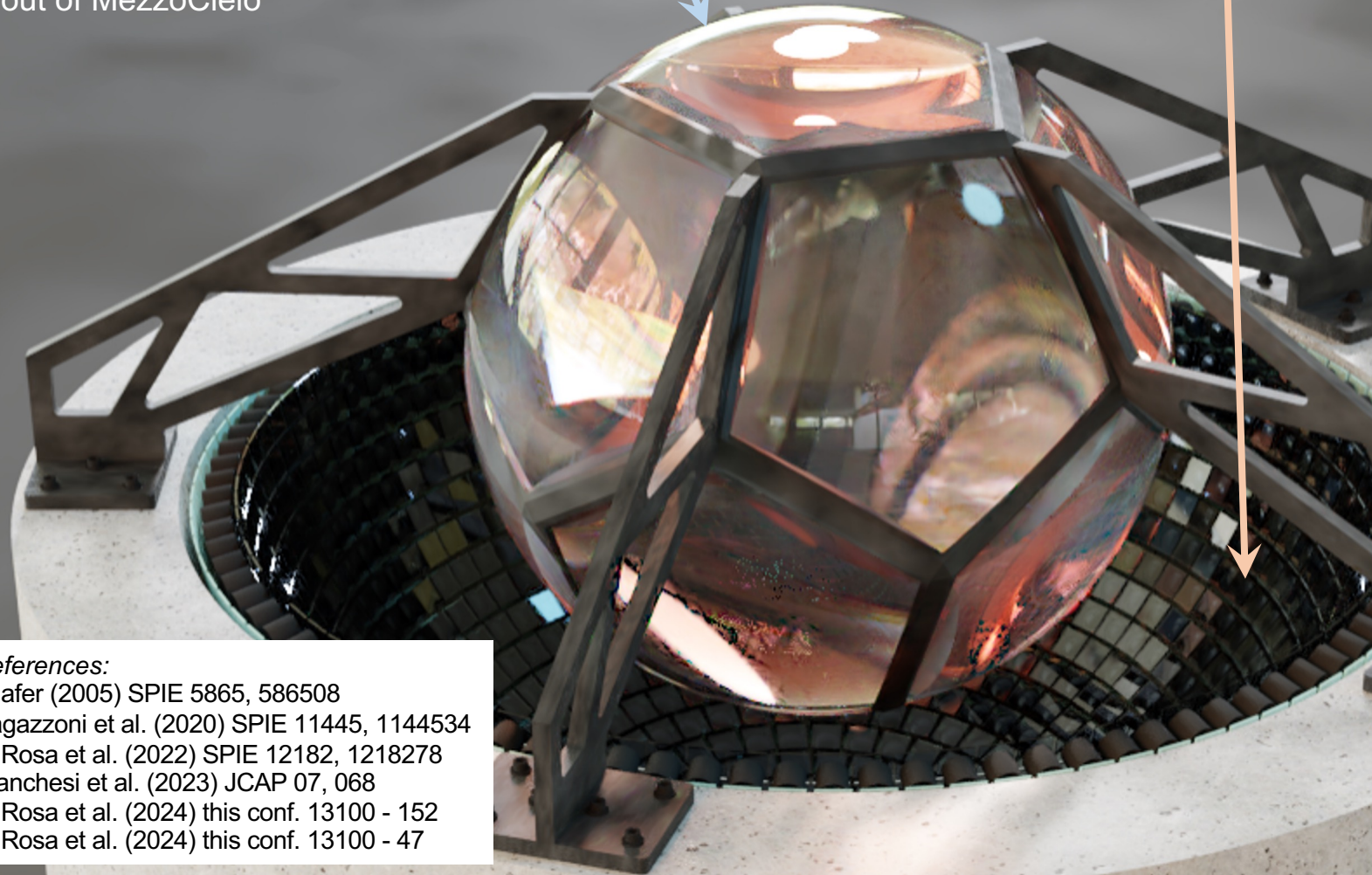
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An array of individual, mass produced, cameras compensates such aberrations and provides onto CMOS-like detectors seeing limited images of a small portion of the sky with a slight overlap, the same size of the monocentric system aberration

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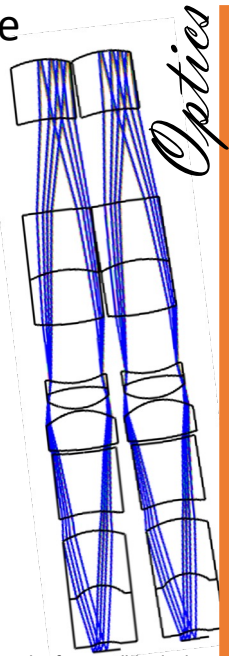
A 3D rendering of a possible layout of MezzoCielo



References:
 Shafer (2005) SPIE 5865, 586508
 Ragazzoni et al. (2020) SPIE 11445, 1144534
 Di Rosa et al. (2022) SPIE 12182, 1218278
 Branchesi et al. (2023) JCAP 07, 068
 Di Rosa et al. (2024) this conf. 13100 - 152
 Di Rosa et al. (2024) this conf. 13100 - 47

Design options include among the others:

- Compensation of large spherical aberration through the use of aspheric surface on reimaged pupil;
- Use of liquid within the optical corrector itself;
- Adoption of two glasses meniscus option to diminish monocentric aberrations;
- Trade off between large individual Field of View and numerosity of compensator;
- Use of typical CMOS format and pixel size.

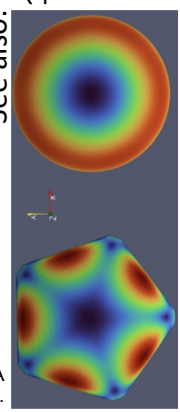


A pair of a possible design of the optical compensator. The field lenses are on top While the detector is on the bottom.

Optimization of the structure does consider the following:

- Interface between meniscus and structure in order to be fluid tight;
- Deformation of meniscus due to gravity and hydraulic loads so to design them in order to assume the proper shape when under static loads;
- Calculation of birefringence effects due to stress onto the meniscus, considering the worst-case scenario of both thermal and gravitational loads acting;
- Tolerancing into spherical tiles to be compliant with optical performances;
- Stability under wind and thermal uneven loads.

See also: 13100-47
13100-152



Deformations computed through FEA of meniscus in different configurations..

Mechanics

Definition of patrolling wh

- NEO (Near Earth Objects) and S (Space Situational Awareness) applications are obvious niches
- Optical counter of GW can be accomplished significant gain in terms of accuracy source pinpoint for further observations.
- Unknown parameters sp rather wide