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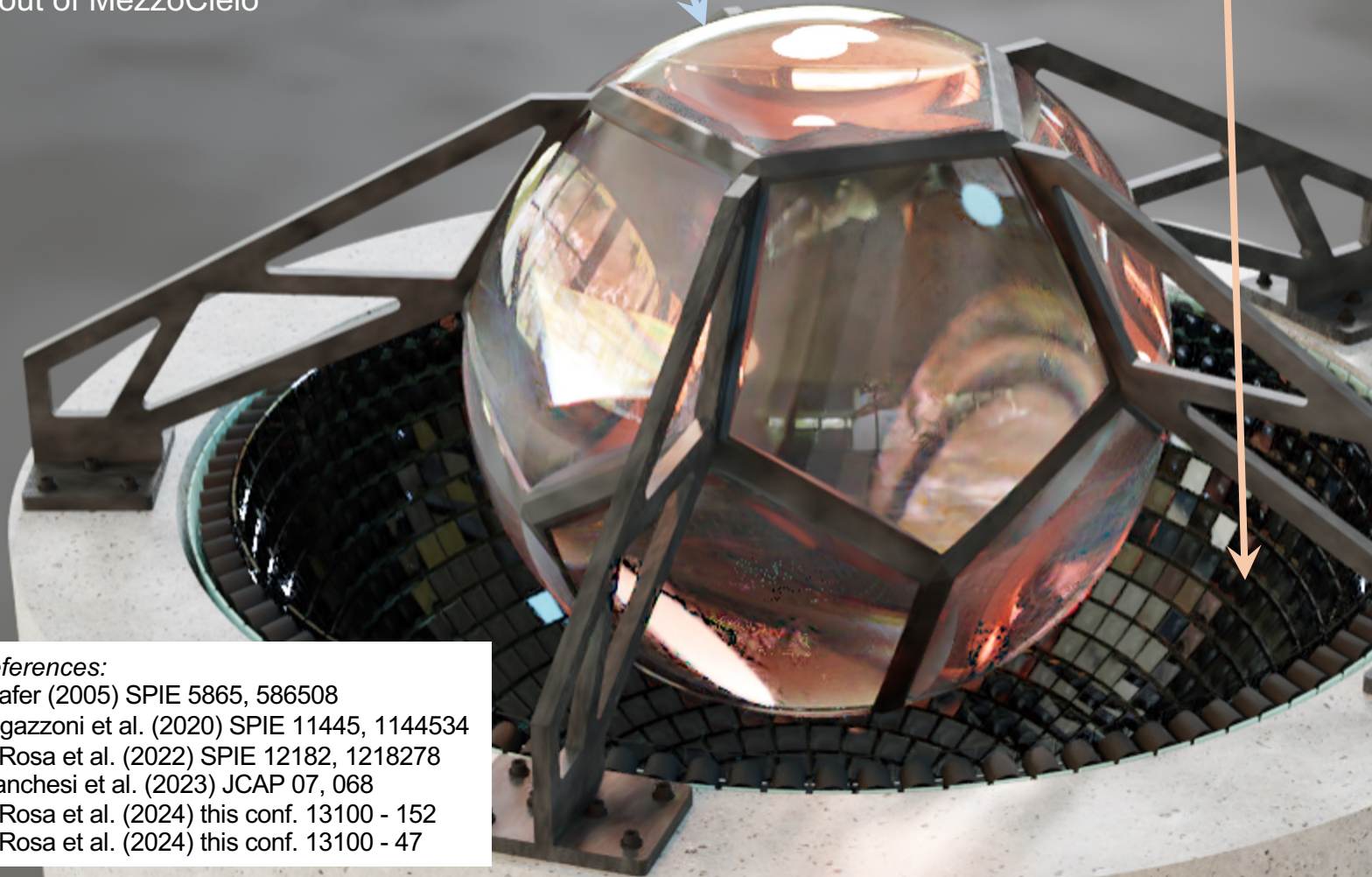
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An array of individual, mass produced, cameras compensates such aberrations and provides onto CMOS-like detectors seeing limited images of a small portion of the sky with a slight overlap, the same size of the monocentric system aberration

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A 3D rendering of a possible layout of MezzoCielo

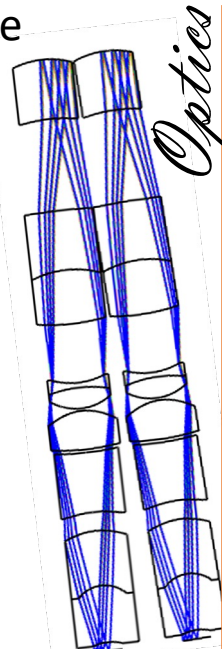


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 Di Rosa et al. (2024) this conf. 13100 - 152
 Di Rosa et al. (2024) this conf. 13100 - 47

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.



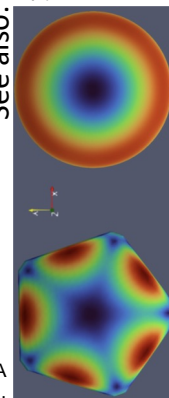
A pair of a possible design of the optical compensator. The field lenses are on top While the detector is on the bottom.

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..

Definition of patrolling wh

- NEO (Near Earth Objects) and S (Space Situation 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

Mechanics

Optics