

MezzoCielo: an ultra-wide field telescope for all-sky transient surveys

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MezzoCielo, meaning “half of the sky,” represents one of the most advanced developments in the class of all-sky survey telescopes. This revolutionary design is built around a fully spherical refractive optical element, filled with a highly transparent, low-refractive-index liquid, and surrounded by a large array of identical cameras. By leveraging this unique optical architecture, MezzoCielo achieves an unprecedented field of view, continuously observing an area of the sky exceeding ten thousand square degrees.

The optical design and the high-cadence monitoring capabilities makes MezzoCielo ideal for the detection and early localization of transient astrophysical phenomena pushing at the limit the capabilities of ground-based optical surveys. MezzoCielo proposes to be the optimal companion for multi-messenger astrophysics, looking forward to the next-generation gravitational wave observatory, the Einstein Telescope (ET).

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