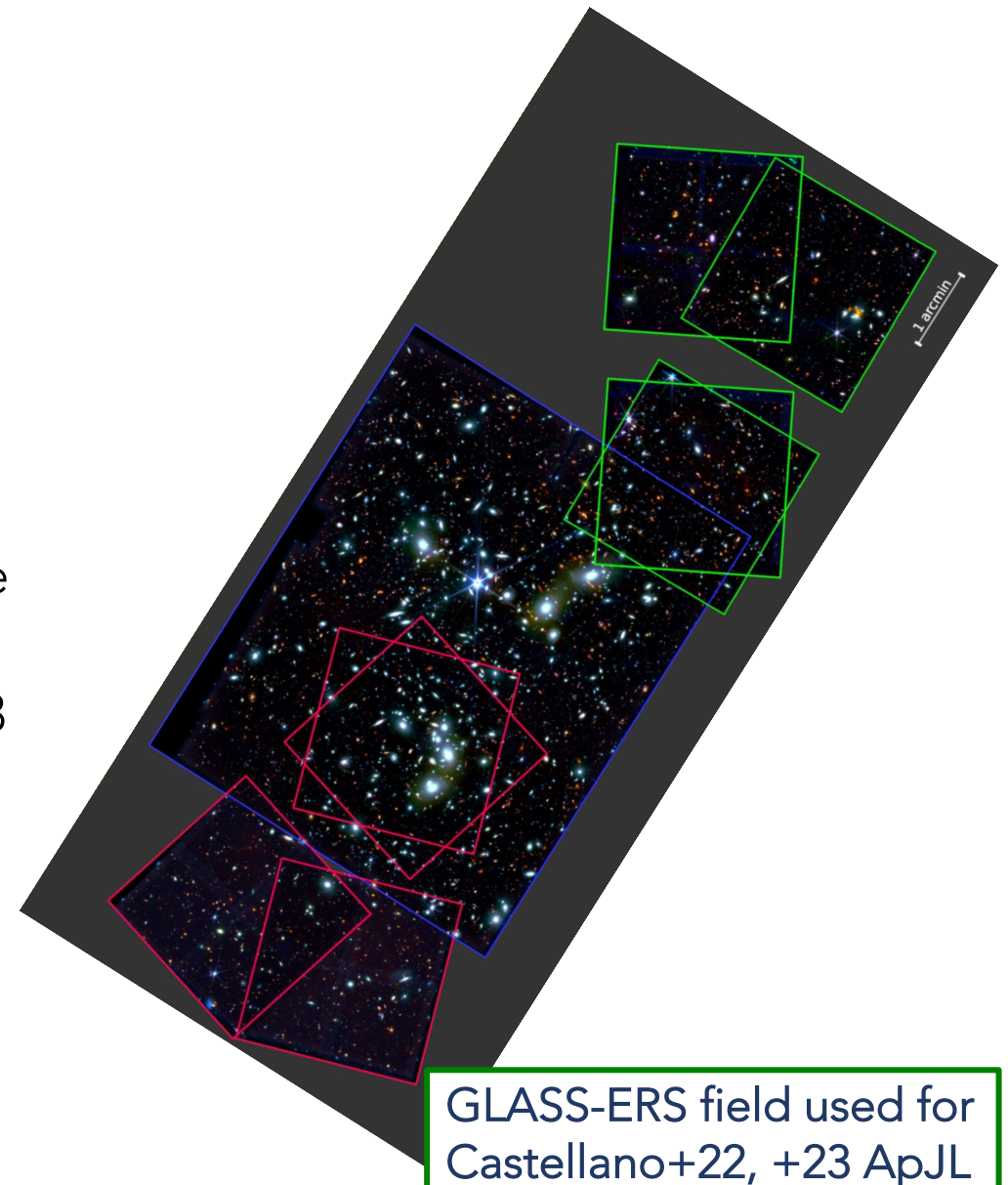


Reionization and fundamental cosmology with high-redshift galaxies

Participants: M. Castellano, N. Menci, P. Santini

Scheda: RELIGHT

- **Scientific motivation:** JWST surveys can address fundamental questions on the epoch of reionization and formation of the first stars ($z > 7$), and enable using high-redshift galaxy populations as cosmological probes
- **Goals:** support the work within Cycle 1 JWST surveys GLASS, CEERS, NGDEEP, PRIMER, strengthening collaboration networks and enabling dissemination of the results at international conferences
- **Deliverables:** publications on galaxy candidates at $z = 7-13$ and possibly beyond; UV luminosity functions, SFRD and reionization timeline; galaxy clustering during reionization; cosmology using high-redshift galaxy populations
- **Total budget:** 18500 euros, covering travels and HW



GLASS-ERS field used for Castellano+22, +23 ApJL

Reionization and fundamental cosmology with high-redshift galaxies

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Scheda: RELIGHT

- **Scientific output:** several publications by the PI (2 first-author ApJL, 38 papers as a co-author), and cols based on JWST surveys on the topics of the grant's goals.
- **Main results by PI and cols:** first detection of $z \sim 9-13$ galaxy candidates in JWST data (MC+22 ApJL, among the most cited JWST papers so far), determination of the UV LF at $z \sim 10$ and clustering analysis (MC+23 ApJL), physical properties of $z \sim 7-12$ galaxies (Santini+23 ApJL), cosmological constraints from massive galaxies detected in JWST CEERS survey (Menci+22, ApJL). Participation to several approved Cycle 2 follow-up programs, including one as PI.
- **Total grant expenses so far:** ~ 9000 euros, covering dissemination of JWST results with 6 talks at international conferences, requested HW (laptop and accessories) for dissemination and data analysis.
- *The INAF Mini-grant has been fundamental to support work and involvement in JWST-based collaborations!*

