



ID de Contribution: 9

Type: **Oral presentation**

## **A Glimpse into the Dark Ages: the JWST's UNCOVER program and high-redshift Discoveries**

*vendredi 1 mars 2024 10:30 (15 minutes)*

Over the past few years, the JWST has made some remarkable discoveries. The JWST UNCOVER program, which made observations through the lensing cluster A2744, has led to the discovery of 16 galaxy candidates at redshifts between 9 and 11, and three candidates in the range  $11 < z < 13$ . Detailed studies of these candidates show a rapid evolution of the mass-luminosity relation and the UV continuum slope  $\beta$  towards high redshift. Interestingly, some of these candidates at  $z > 9$  have shown a clear indication of a Balmer break or strong optical emission lines. With ultra-deep NIRSpec follow-up observations, we reported a 100% success rate in their spectroscopic confirmation, which demonstrates the accuracy of the photometric selection. Furthermore, using comprehensive lensing simulations, we constructed the most accurate UV luminosity function at  $z > 9$ . Our analysis has led to a clear overabundance of bright galaxies (with  $M_{UV} > -20$ ) compared to theoretical predictions and previous findings by the HST, which is consistent with recent JWST studies. Looking ahead, we eagerly anticipate the JWST Cycle 2 program GLIMPSE, which will obtain the deepest observations on the sky to date, to identify the faintest galaxy populations from the Dark Ages to the epoch of reionization.

### **Astrophysics Field**

Not in the above

### **Day constraints**

not Thursday morning

**Auteur principal:** CHEMERYNSKA, Iryna

**Co-auteur:** M. ATEK, Hakim (Institut d'Astrophysique de Paris)

**Orateur:** CHEMERYNSKA, Iryna

**Classification de Session:** Session 9