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ABSTRACT ONLY

PHYSICAL PROPERTIES OF HIGH REDSHIFT LENSED GALAXIES

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The epoch of reionization marks a major phase transition of the Universe, during which the intergalactic space became transparent to UV photons. Determining when this occurred, the physical processes involved and the sources of ionizing radiation represents one of the major goals in observational cosmology. Irrespective of the nature of this radiation, the general consensus is that the faint sources dominate the ionizing background. Searching for low luminosities (i.e. L < L*, which corresponds to $m_{1500} > 27.1$ at $z = 3$) high redshift galaxies, thus complementing blank field studies, is a primary goal of surveys carried out through lensing clusters. The collaboration CLASH-VLT, has recently produced high precision lensing models of CLASH clusters, thanks to the redshift measurement of many multiply lensed systems from the CLASH-VLT spectroscopic campaign, which are critical for strong lensing mass reconstruction techniques. This effort has complemented photometric redshift information readily available from the multi-band HST survey (524 HST orbits of Hubble with more 1000 hours observations of 25 clusters in 16 filters from the CLASH program). CLASH-VLT has used the VIMOS wide-field spectrograph to obtain $\sim 30,000$ redshifts in 12 CLASH Clusters at $z = 0.2 - 0.6$ in the south, with the spectroscopic identification of $500 - 1000$ members per cluster. As a result of CLASH-VLT lensing models, accurate magnification maps can be used to derived intrinsic (unlensed) properties of lensed galaxies as faint as M$\sim$−15, i.e. $\sim$ 5 mag fainter than M* at high redshifts. In this talk we will show some high-lights of the CLASH-VLT project and our results doing fitting stellar population synthesis models to the spectral energy distribution of these galaxies ($2 < z < 7$) to derive their stellar masses, star formation rates, gas/dust content, and physical parameters of their interstellar medium.

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