Emission line galaxies from the
SHARDS medium-band ultra deep survey.

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Abstract

SHARDS (Survey for High-z Absorption Red & Dead Sources) is an unbiased ultra-deep spectro-photometric survey with OSIRIS@GTC aimed at selecting and studying massive passively evolving galaxies at z=1.0–2.3 using a set of 25 medium-band optical filters (FWHM 15–17nm, 500–950 nm) in GOODS-N. Nonetheless, the data quality allows a plethora of studies on galaxy populations, including emission lines galaxies and AGN. We exploit the SHARDS dataset to select star forming galaxies through their [OII] line emission and to investigate their physical properties. Equivalent widths, line fluxes, luminosities, star formation rates and extinction properties of this galaxy population are investigated. Special attention is devoted to the study of the attenuation law through the use of multi-wavelength data and comparing UV-/IR-/[OII]-selected samples. The ultra-deep SHARDS data, thanks to their relatively good equivalent spectral resolution (R$\sim$50), demonstrate to be a powerful tool for the detection and study of high-redshift star forming galaxies.