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Hα Emitting Galaxies in the Deep And Wide Narrow-band Survey ALICIA GONZALEZ, Arizona State University — Hα is an spectral line of hydrogen that occurs when an electron transitions from its third to its second lowest energy level. Hα emission (λ=6563 Å) comes mainly from early-type stars, so its presence is the best tracer of recent star formation. Studying the Hα luminosity of galaxies permits then the calculation of their star formation rates. The Deep And Wide Narrow-band Survey (DAWN) is an ongoing and uniquely deep survey that stands out for its sensitivity and area coverage. It is being done using a custom-made narrow-band filter, centered at 10660 Å and 35 Å wide. DAWN is an NOAO survey project that uses the 4-meter Mayall telescope at Kitt Peak National Observatory (Arizona) equipped with the NEWFIRM instrument,an infrared camera with a 28x28 arcmin field of view. This filter is suitable for the detection of Hα emission at z $\sim$ 0.6, a redshift that corresponds to a time when the Universe was roughly half of its current age. From this survey we have $\sim$120 Hα candidates in the COSMOS field with available photometric or spectroscopic redshifts. A fraction of these candidates are fainter than those in other similar surveys, which leads us to extend the Hα luminosity function to fainter luminosities.

Alicia Gonzalez
Arizona State University

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