



INSTITUTO DE FÍSICA  
DE PARTÍCULAS Y DEL COSMOS

IPARCOS



Preprint Series in Particles and Cosmos Physics

n° IPARCOS-UCM-26-014

# The Far-Ultraviolet Extragalactic Legacy (FUEL) Survey: Hubble Far-UV Images and Catalogs of the Extragalactic Legacy Fields

by A. Kavei, et al. (including A. Dominguez)

March 2026

Plaza de las Ciencias, 1 28040 Madrid, Spain

[www.ucm.es/iparcos/](http://www.ucm.es/iparcos/)



UNIVERSIDAD  
COMPLUTENSE  
MADRID



# Abstract

We present far-ultraviolet (FUV) images and catalogs from the Hubble Space Telescope (HST) Advanced Camera for Surveys/Solar Blind Channel (ACS/SBC) F150LP ( $\sim 1600 \text{ \AA}$ ) of three extragalactic fields: GOODS-S, GOODS-N, and COSMOS. The data comprise 365 orbits of high-resolution imaging of 151 pointings covering an area of  $44.7 \text{ arcmin}^2$  to typical depths of FUV  $\approx 28.7 \text{ AB}$  ( $3\sigma$ ,  $0.5''$  diameter aperture). We provide a new model of the spatially-varying dark “glow” created from all 365 orbits of data, and scale and subtract it from all pointings. We provide drizzled image mosaics, weight maps, and exposure time maps matched in coordinates and pixel scale to the Hubble Legacy Fields (HLF) frame, and original COSMOS tiles. Galaxy photometry is measured within isophotes defined with existing deep Hubble F606W or F814W optical filters. We detect 1068 galaxies and provide catalogs of all optical detections, and include matched IDs to existing 3D-HST and CANDELS catalogs. The redshift distribution of FUV-detected galaxies peaks at  $z \sim 0.6$  and falls until  $z = 1.2$ , where the Lyman limit shifts redward of any filter transmission. These data fill the redshift gap of high-resolution far-UV imaging between  $z \sim 0$  and  $z > 1$ , allowing for studies of star-forming regions, dust properties, the FUV extragalactic background, and Lyman continuum emission from  $z > 1.2$  galaxies.

