

**Predicting Future Space Slitless Spectra Using the
WFC3 Infrared Spectroscopic Parallels (WISP)**

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Abstract: Future space telescopes are likely to make extensive use of slitless grism spectroscopy in the near-IR over large areas of sky. Both ESA's recently selected Euclid mission and the WFIRST mission being studied by NASA plan slitless spectroscopic surveys to obtain redshifts over thousands of square degrees. The HST WFC3 camera has two near-infrared grisms, G102 and G141, covering 0.8-1.6 microns, making it perfect the perfect laboratory for predicting what these future missions will find. We present results from the WFC3 Infrared Spectroscopic Parallels (WISP) program, which has been taking deep WFC3 observations using both grisms at random locations across the sky in parallel with primary COS observations. The WISP survey presently consists of more than 150 fields, covering ~700 square arcminutes, reaching fluxes of 5×10^{-17} ergs/s/cm². I will present completeness corrected number counts, luminosity functions, and predicted counts for the proposed future missions. I will also discuss the issue of line identification of the emission lines, particularly H-alpha and [OIII]5007 which often have similar fluxes and equivalent widths.