

Astrogrism User Stories

User stories are a useful input to developing the concept for a software product and specifying the features. Typically, the stories have a lead off description of the form "As a (kind of user) I want to (do something) to (achieve something)." The elaboration of the user stories describe what inputs are needed, what outputs are expected, and what computations are performed.

- [1D spectral extraction for perfectly registered & perfectly calibrated data](#)
- [2D spectral extraction - in progress](#)
- [Astrometric Registration](#)
- [Background Subtraction](#)
- [Co-adding spectra - in progress](#)
- [EM2D Use Case](#)
- [Flatfielding with broad-band flat](#)
- [Geometric Transformation](#)
- [Identify associated data sets](#)
- [MAP2D Use Case](#)
- [Simulate a Grism Image and Predict Contamination](#)
- [Simulation/Model based extraction of 1D spectrum for perfectly registered and calibrated data taken at several different orientations](#)

Candidate user stories

Topic	Author	Comments
Identify associated data sets	Ivelina Momcheva	e.g. Find and download direct and dispersed images that overlap on the sky via an archive query
Organization and bookkeeping	Ivelina Momcheva	Conventions for file formats (in and out) metadata in files, file names, directory structure, output files (e.g. column names and units)
Geometric transformations	Norbert Pirzkal	Outline all of the variants and what the use cases are (e.g. elaborate from Nor's presentation)
Astrometric registration	Ivelina Momcheva	Align dithered observations
Simulations	Russell Ryan	Create a simulated 2D dispersed spectrum from a 1D spectrum and image morphology.
Background subtraction	Norbert Pirzkal	What are the different background components & approaches to estimating/subtracting for HST instruments?
Flatfielding Flatfielding with broad-band flat	Russell Ryan	This can be subtle; the same approach can't be used in all circumstances. Maybe multiple user stories are needed? (Ivelina Momcheva can describe the rationale of using the broad band flat field)
1D simple extraction	Harry Ferguson	
1D model-based extraction	Harry Ferguson	
2D spectral extraction		Maybe multiple stories with different approaches to getting a 2D extracted dispersed spectrum?
Co-adding		Maybe several stories with different approaches to co-adding spectra taken at different orientations?
Find an isolated emission line	Norbert Pirzkal	EM2D use case
Create an emission-line map	Norbert Pirzkal Ivelina Momcheva	Create a 2D emission-line map from spectra taken at different orientations (this may require multiple stories?)
Fit a set of templates		Varying flux and redshift
Identify overlaps	Gabriel Brammer	Based on a known object catalog + grism exposure, generate a list of objects that can contribute spectra to a given sky position.