

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