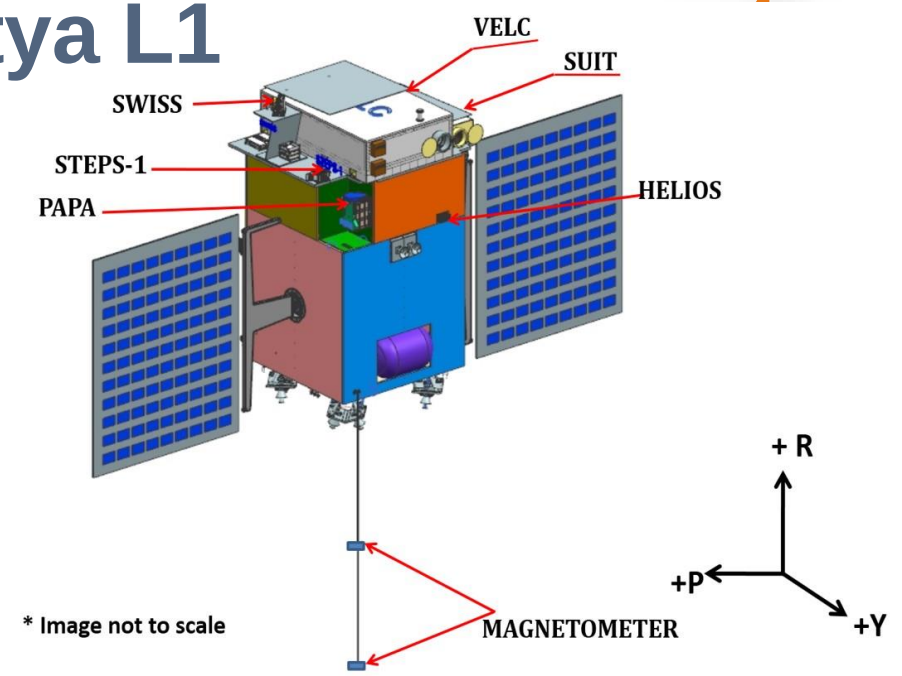
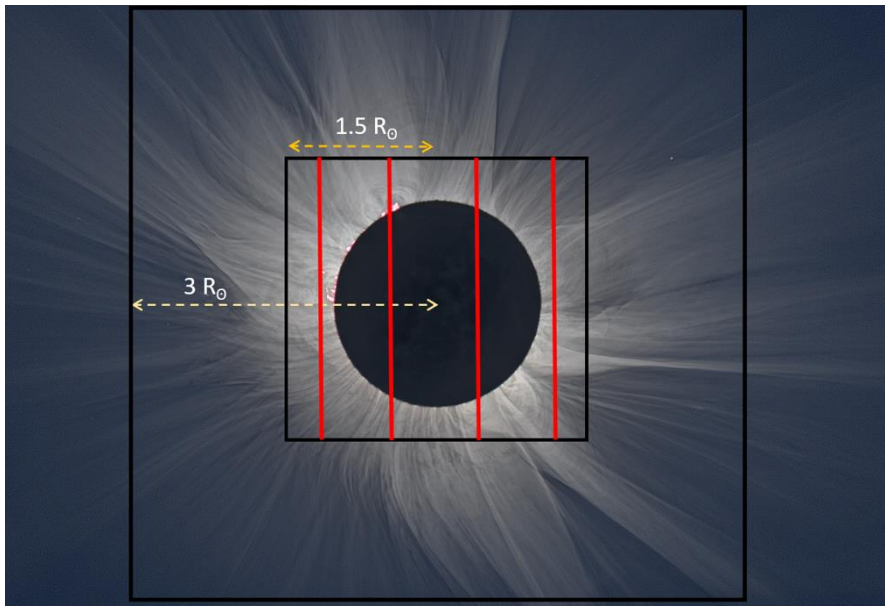
Campaign mode observations with Aditya L1

About VELC/ADITYA-L1

- Aditya-L1: India's first dedicated observatory class mission to study the Sun.
- Visible Emission Line Coronagraph (VELC): One of the seven payloads on board
- Internally occulted solar coronagraph with simultaneous imaging, spectroscopy and spectro-polarimetry channels close to the solar limb.



Deployed view



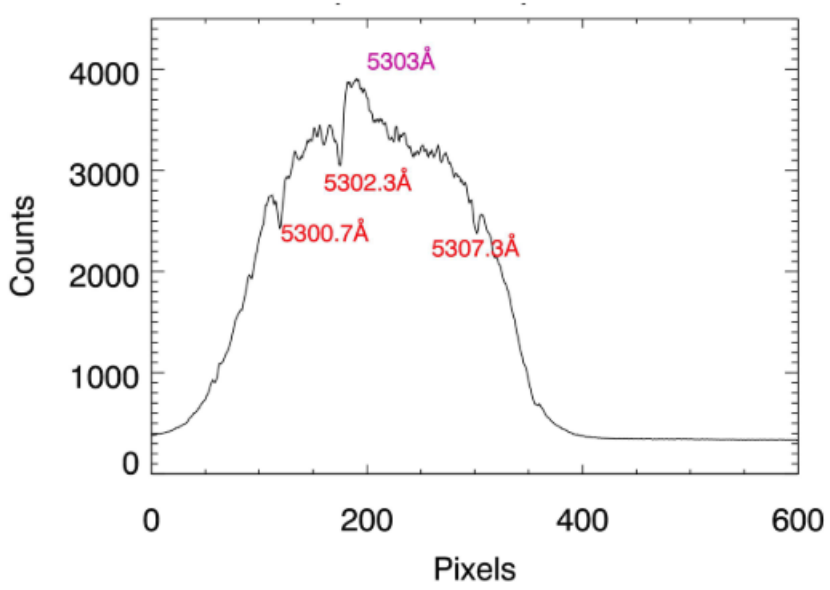
Dipankar Banerjee (IIST), On behalf of SWG

Image Credits: ISRO & IIA

Data Specifications

Emission Line	5303 Å [Fe XIV] ("Green" line)
Passband (FWHM)	~7 Å
Field of View (FoV)	1.05 - 1.5 solar radii
Occulting Disk Radius	1.05 solar radii
Height Range	~0.05 – 0.5 solar radii above limb
Pixel Resolution	1.25 arcsec
Spectral Dispersion	~28 mÅ

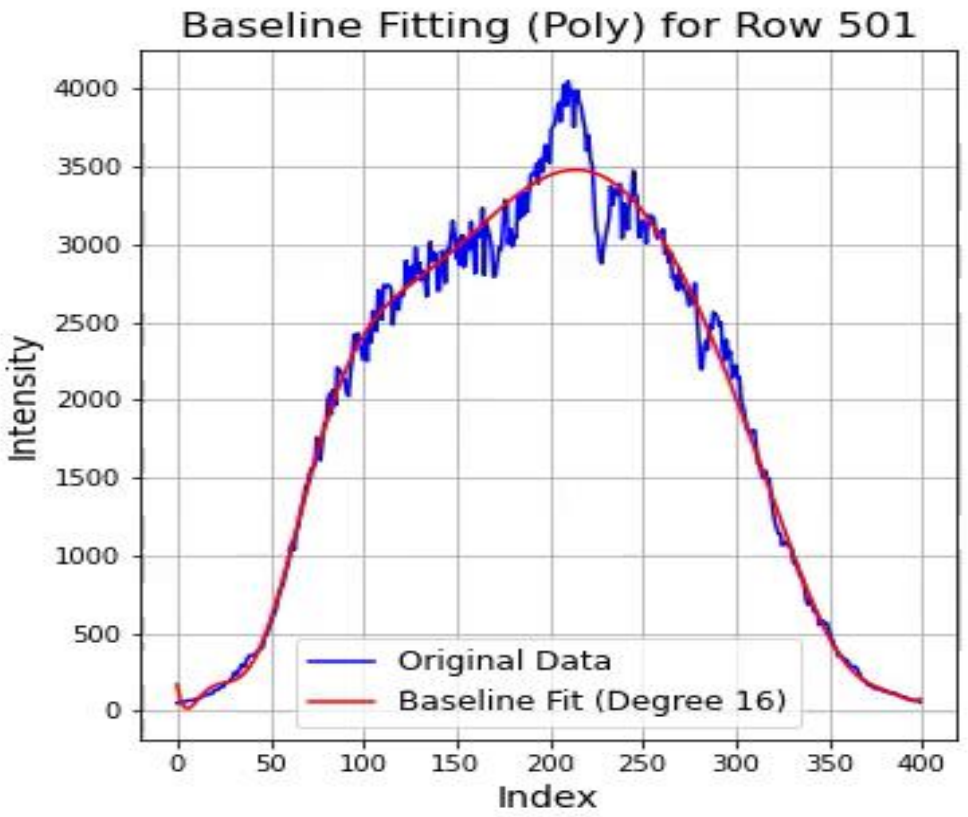
Image Credits: ISRO & IIA

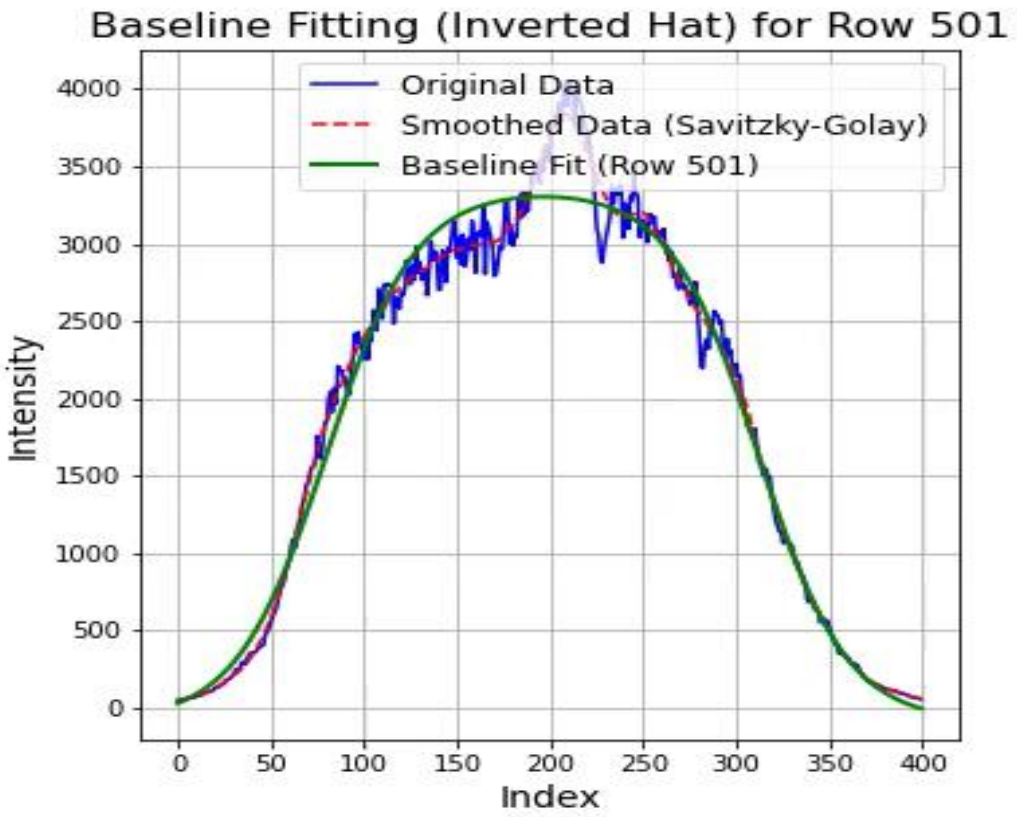


Emission at 5303Å along with the identified absorption lines

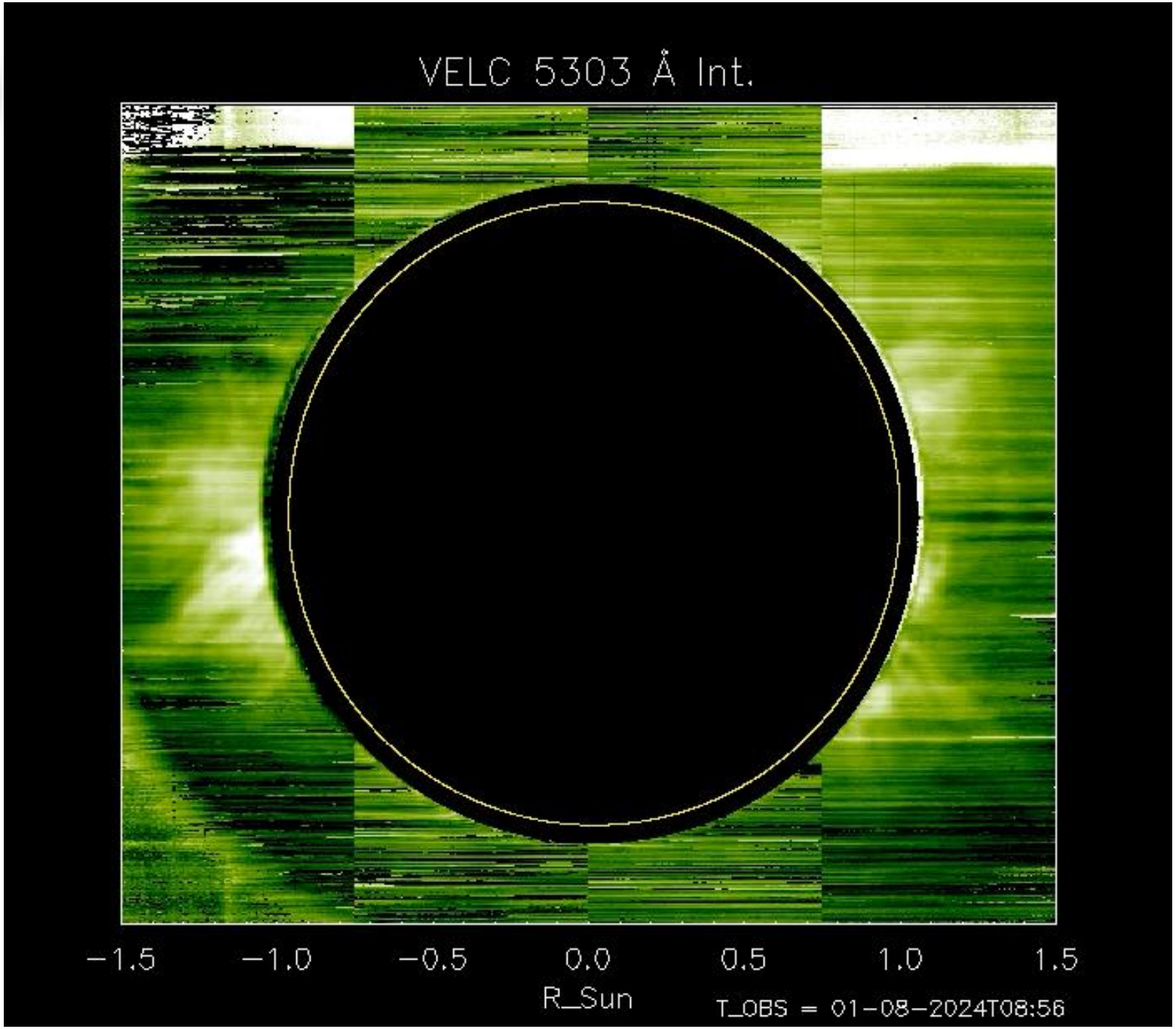
Raw Data → **Level 1 data: inactive pixels removal, bit error correction, Image flipping** → **Level 2 data: flat and dark corrected**

Baseline fitting- Limb Spectra





Slide courtsey: Ambika Saxena



Aditya Data release 15th Feb
Through ISRO website

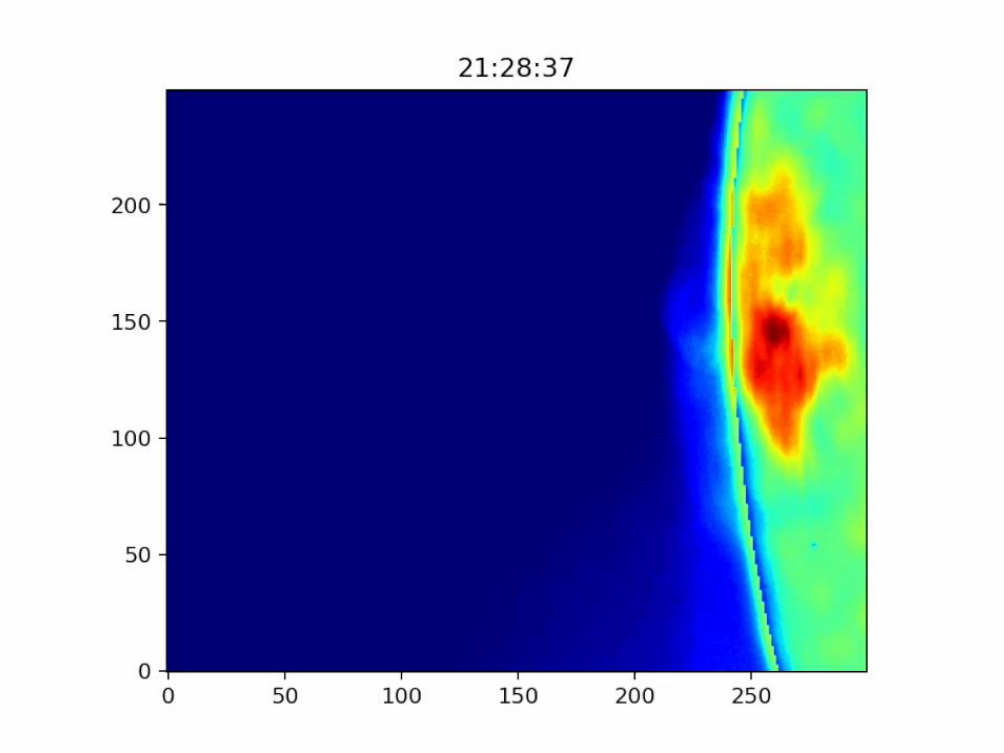
10% of Aditya-L1 observatory time will be available for Multi-observatory proposal

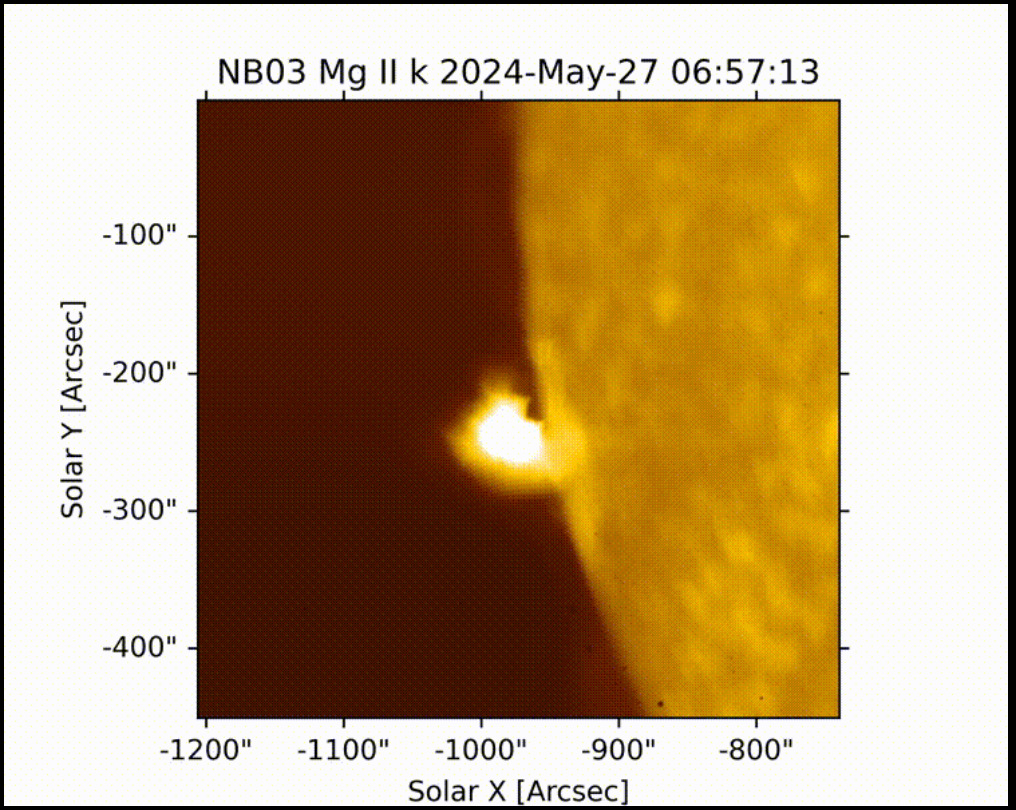
Courtsey: T. Samanta, IIA

Flare Science from Aditya-L1

Capability – On-board Flare Detection and Mode change

2023 New Year Eve Flare





Courtsey: Durgesh Tripathi

X-class flares &CMEs: Couple of Examples

In preparation for ApJL