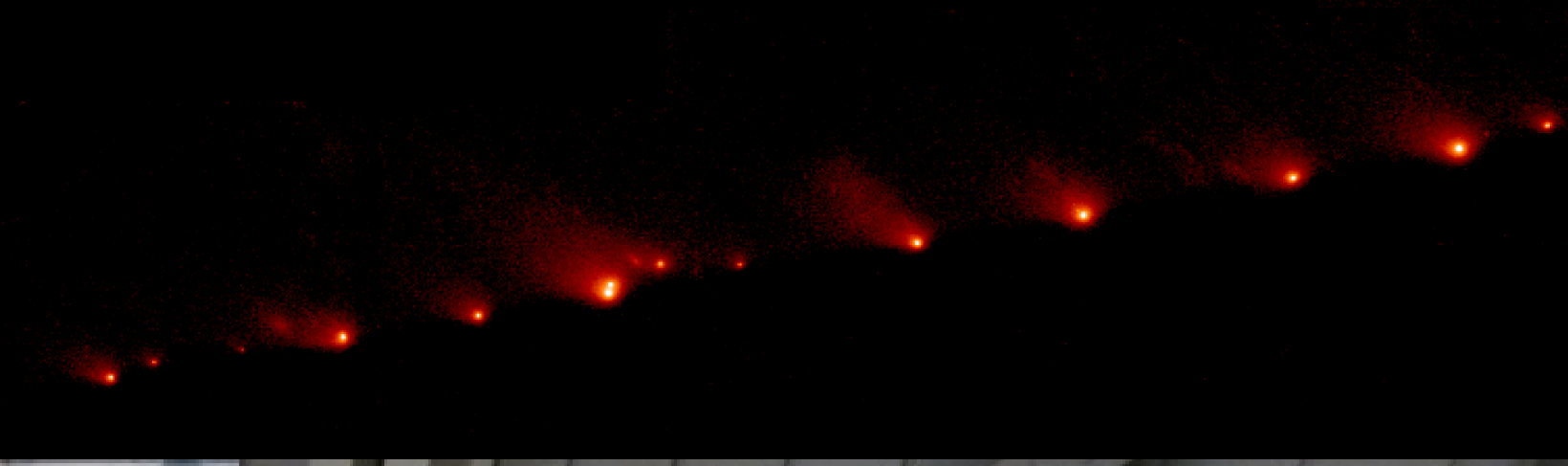
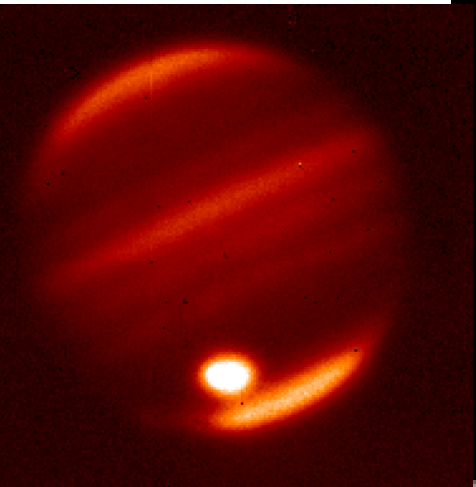
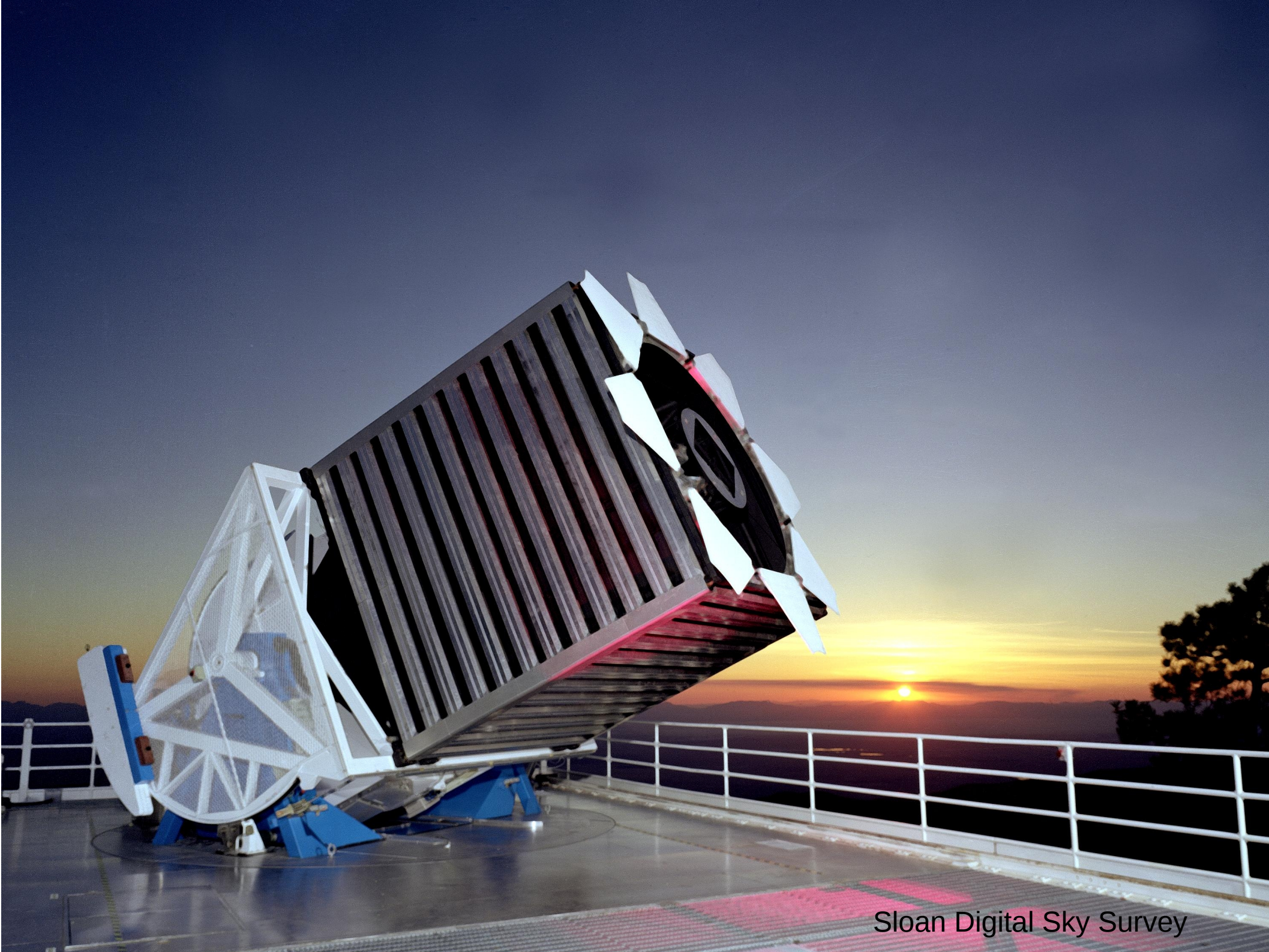
A vibrant green aurora borealis (Northern Lights) is visible in the night sky, with bright, flowing curtains of light. Below the sky, a calm body of water reflects the green light, with several icebergs floating on its surface. The foreground shows dark, rocky terrain. The overall scene is a stunning natural landscape.

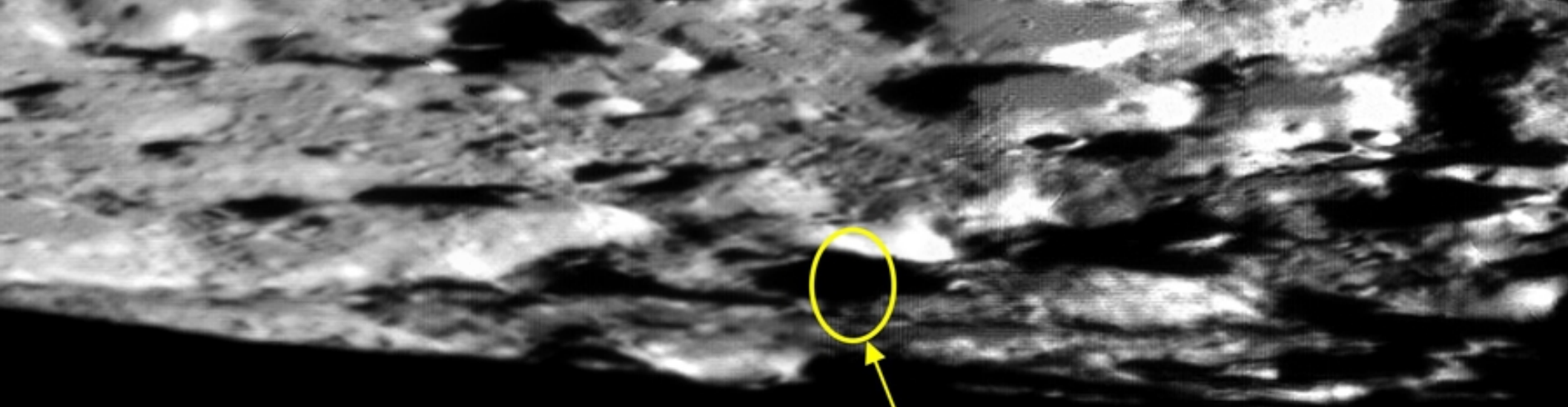
Venus' Mysterious Aurora

Candace Gray
New Mexico State University





Sloan Digital Sky Survey



Expected
plume
area

NMSU / MSFC
Tortugas Observatory 24"
0.9 - 1.7 μm InGaAs Camera



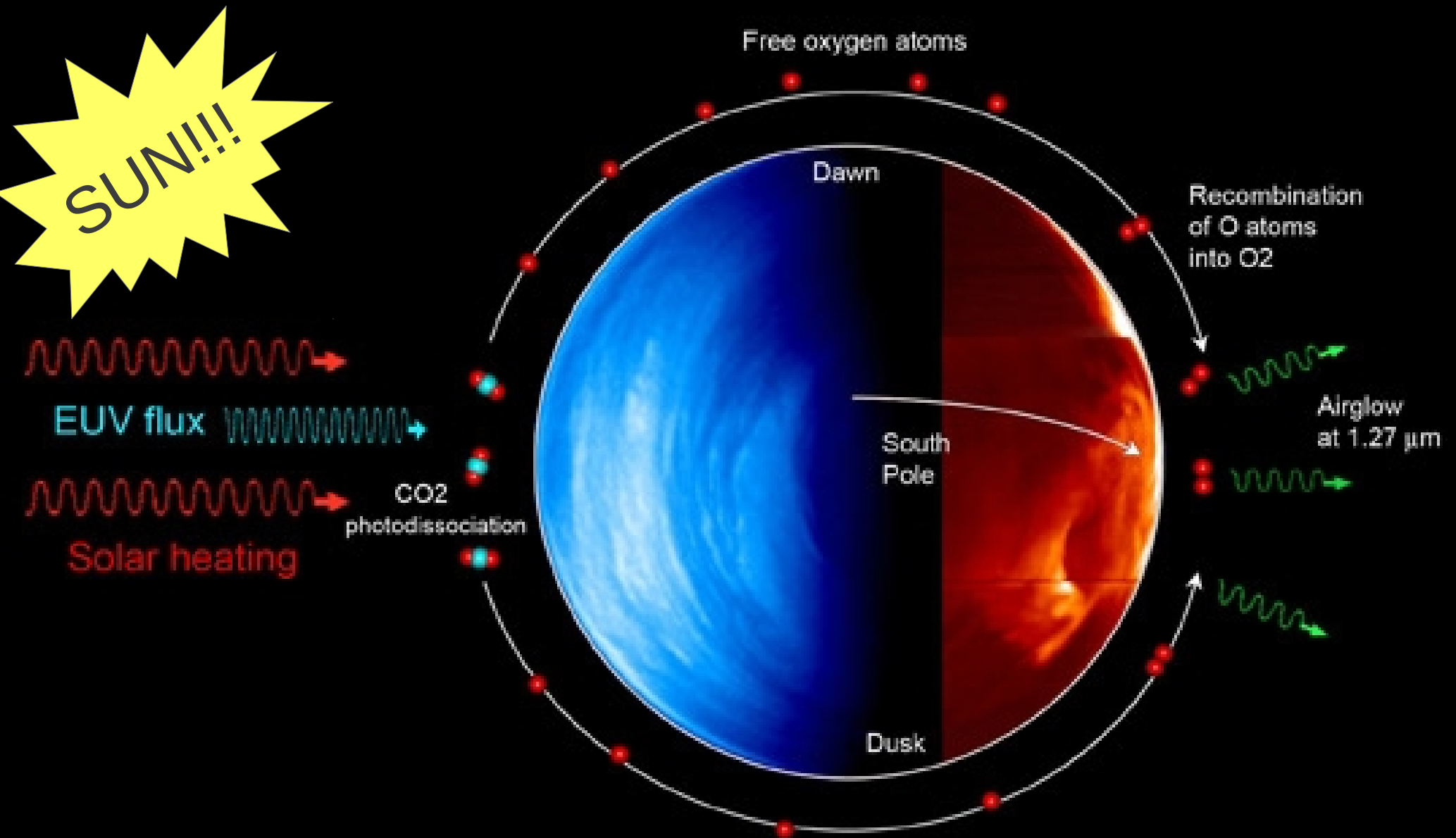


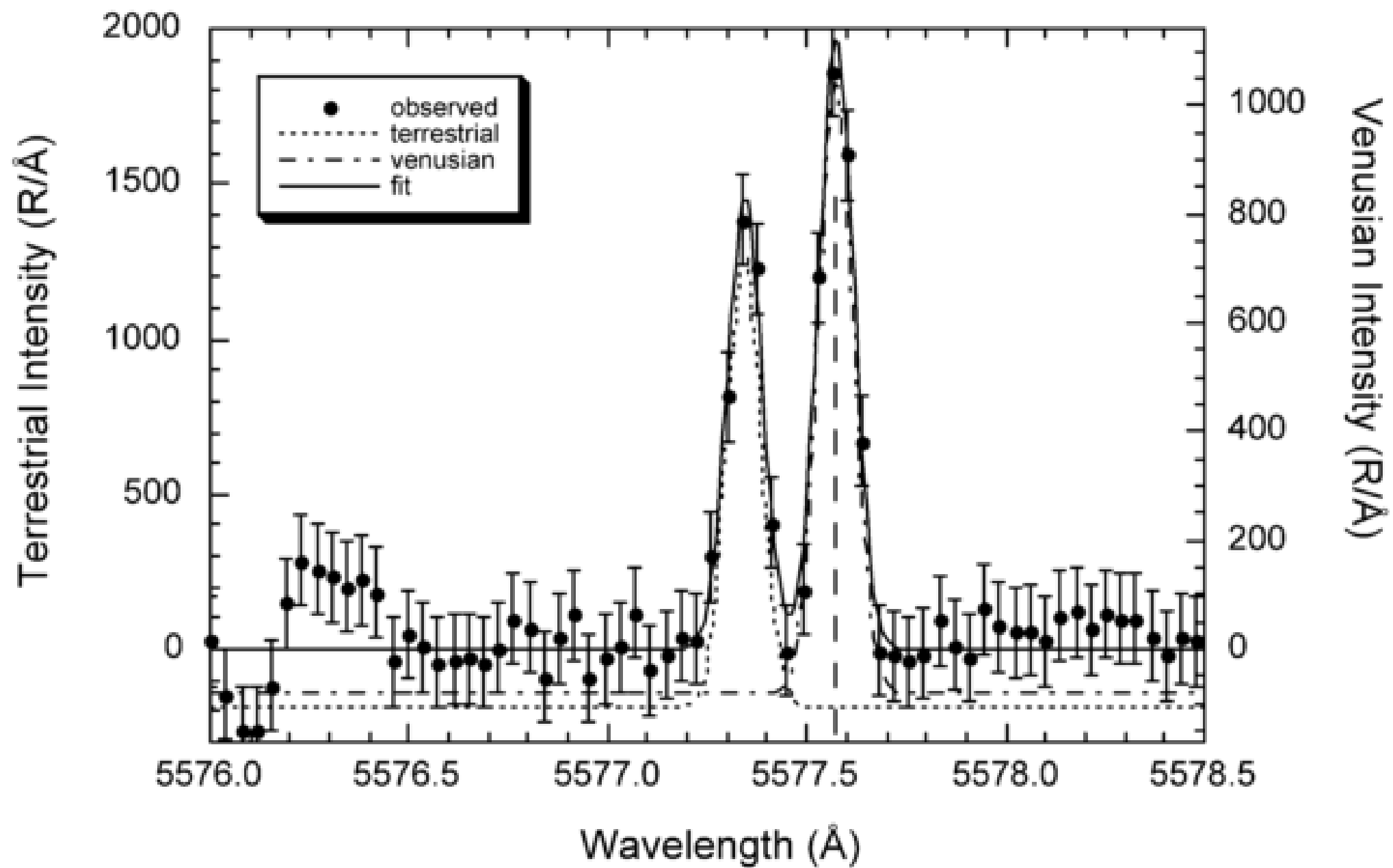
Target of Opportunity





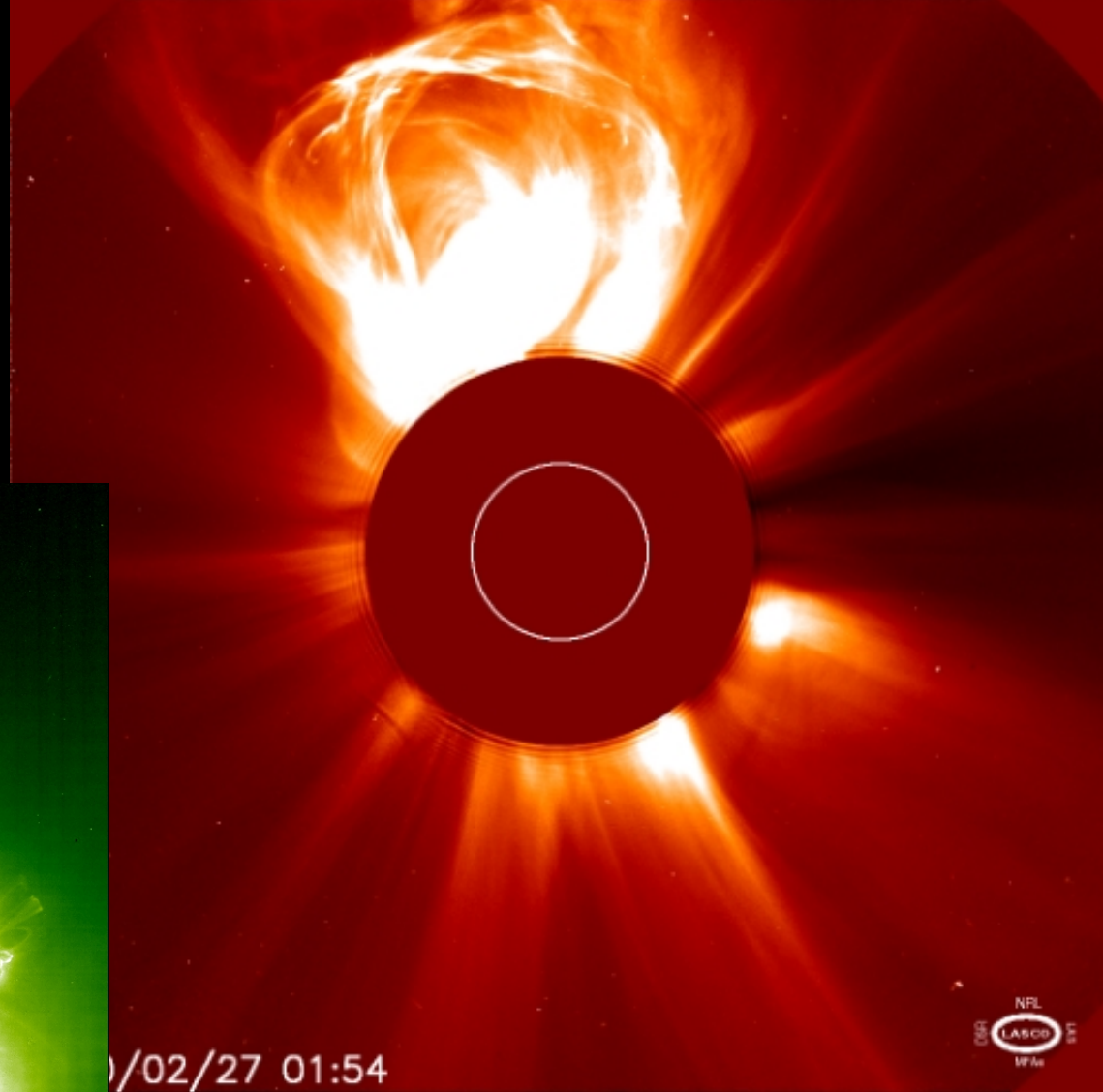
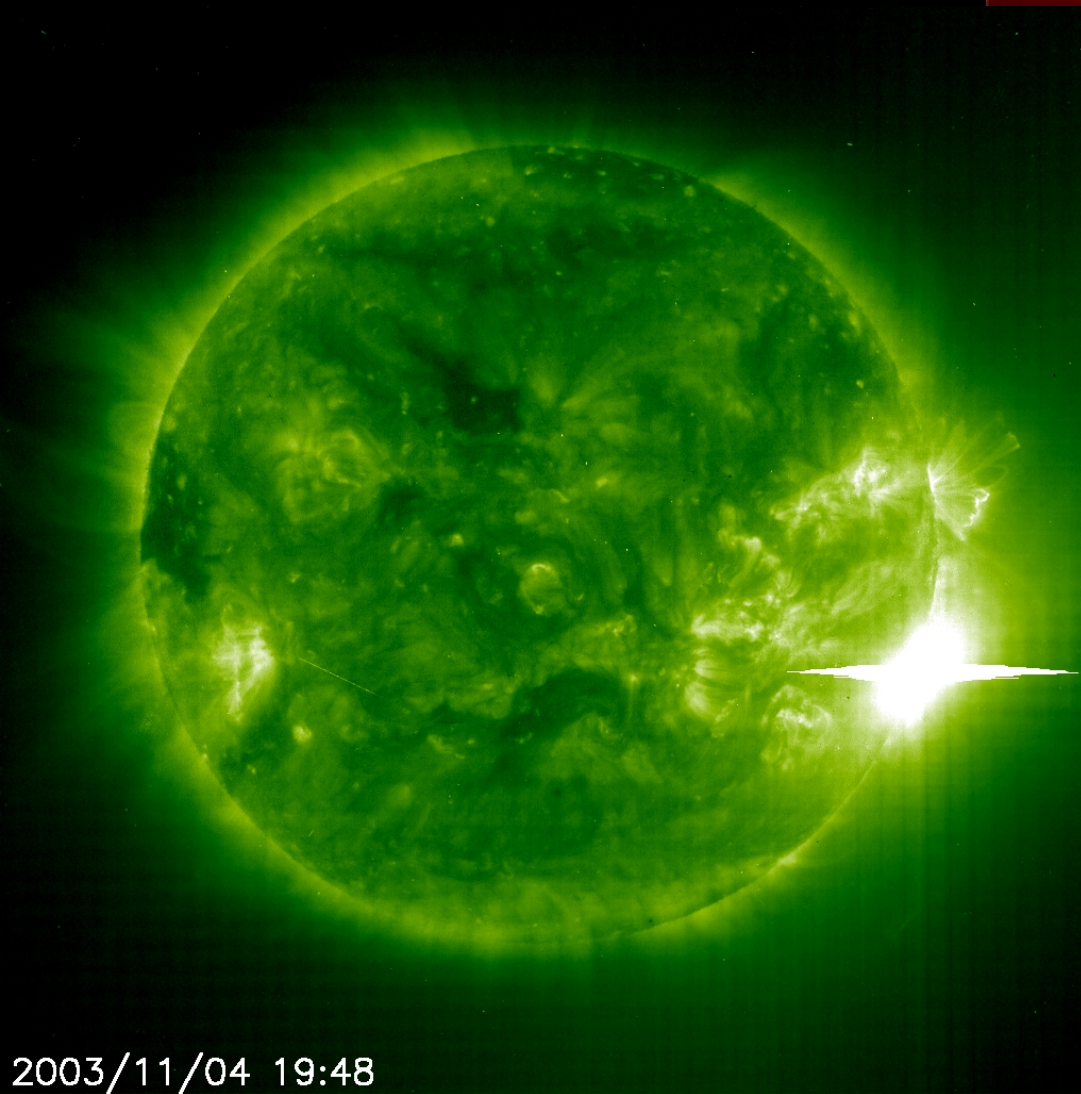
Venus Nightglow - Chemistry





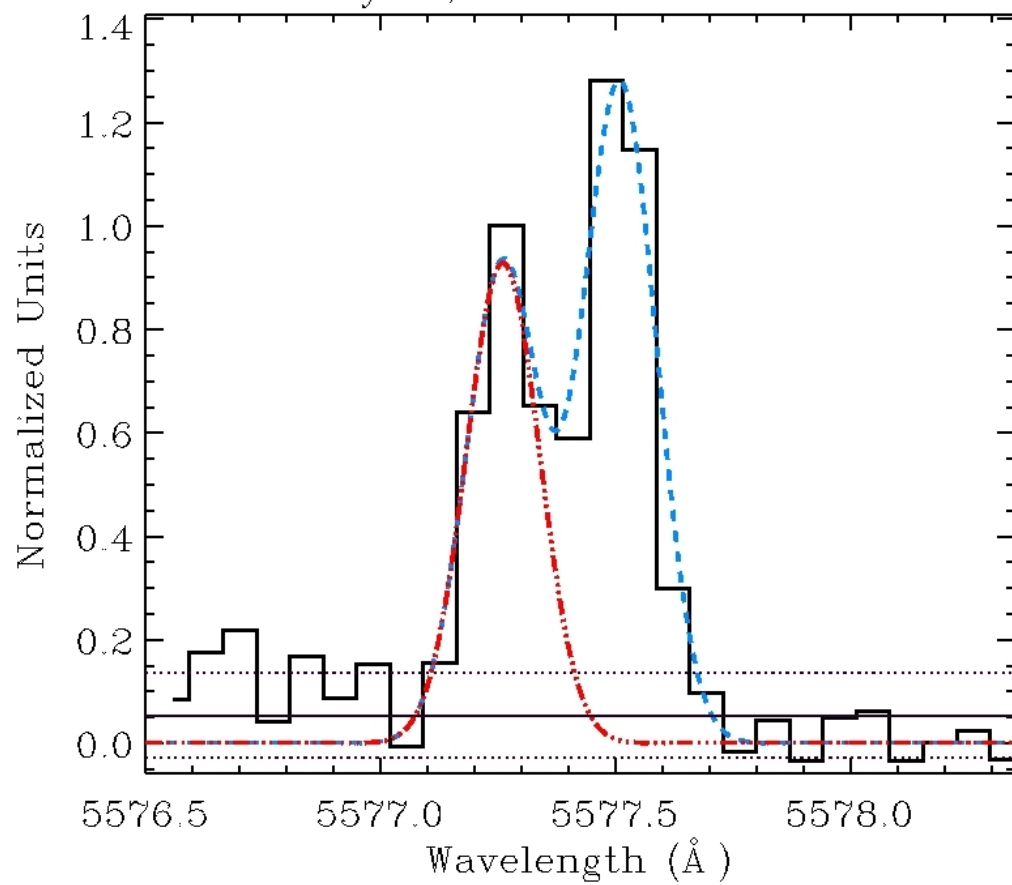
Slanger et al., 2001

Solar Flare

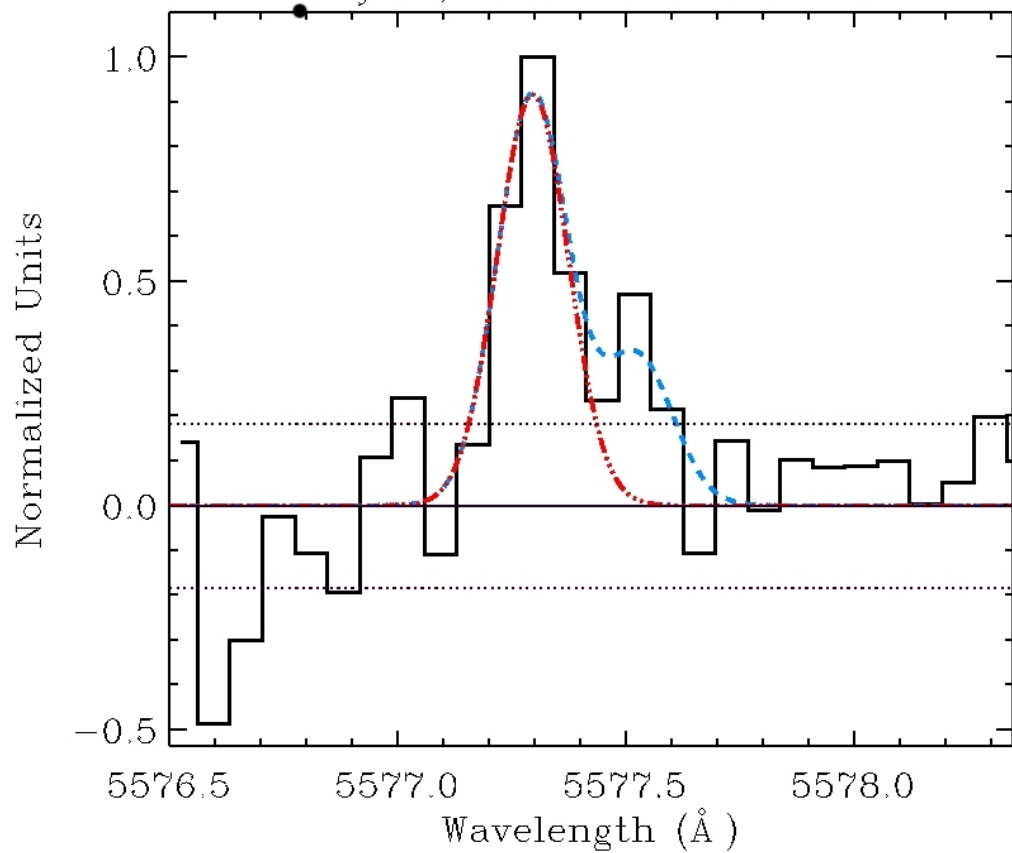


Coronal Mass Ejection

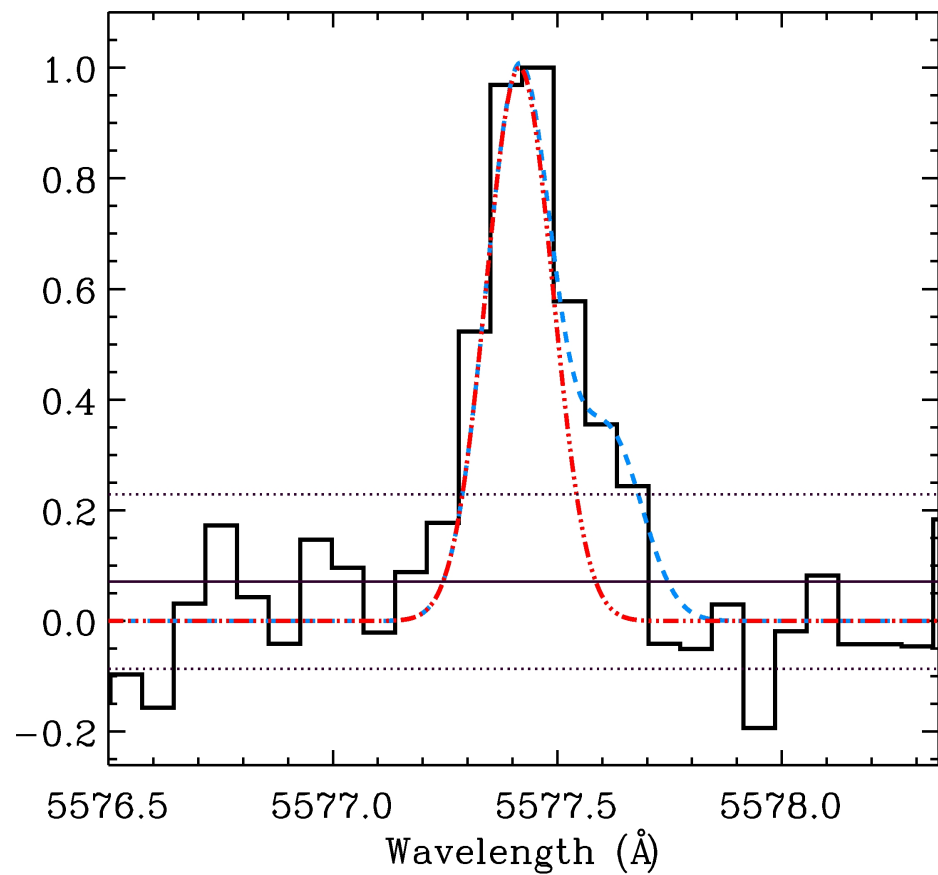
July 14, 2012 – South Limb



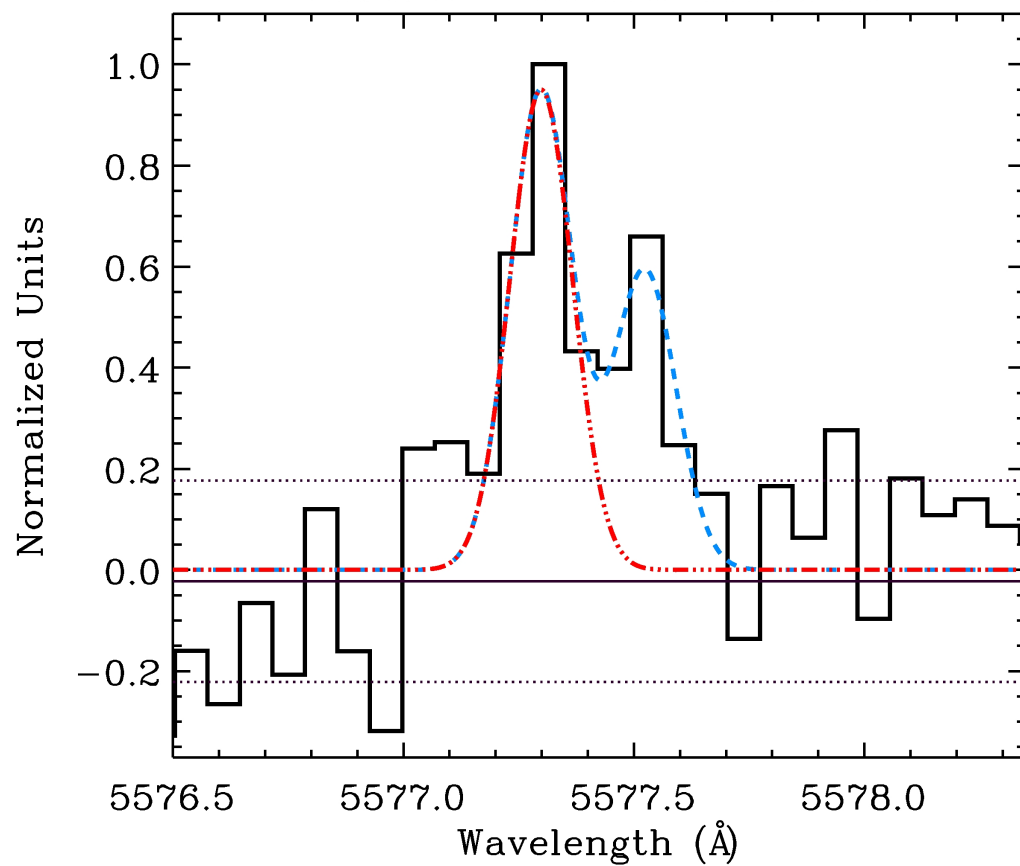
July 16, 2012 – 70South Limb



13Feb2014 - 45North 00070I_5577



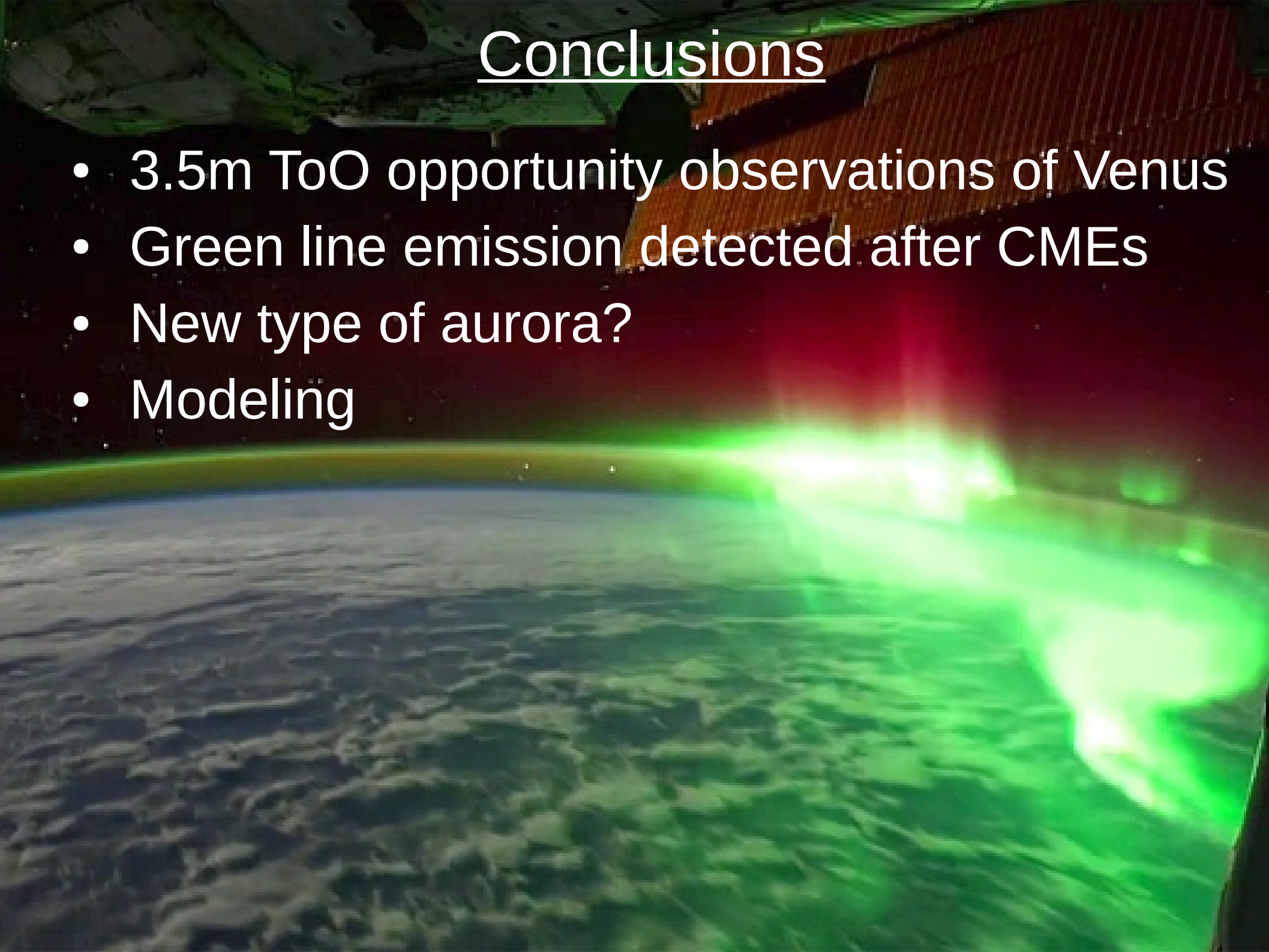
14Feb2014 - 45North 00080I_5577



Date	Target of Opp.	Solar Flare	CME	Green Line
Dec 21, 2010				
Dec 27, 2010			CIR	X
Apr 17, 2012	X	X		
Apr 18, 2012	X	X		
Apr 22, 2012			X	X
May 01, 2012		X		X
May 06, 2012		X		
Jul, 14, 2012	X	X	X	X
Jul 15, 2012	X	X	X	X
Jul 16, 2012	X	X	X	X
Nov 07, 2013	X	X		
Nov 08, 2013	X	X		
Nov 09, 2013	X	X		
Nov 18, 2013				
Nov 29, 2013				
Dec 12, 2013				
Feb 13, 2014	X	X		
Feb 14, 2014	X	X	X	X
Feb 15, 2014	X	X	X	X
Mar 17, 2014				
Mar 30, 2014	X	X		
Apr 01, 2014	X	X	X	
Apr 08, 2014				

Conclusions

- 3.5m ToO opportunity observations of Venus
- Green line emission detected after CMEs
- New type of aurora?
- Modeling



A satellite is visible in the upper right corner of the frame, with its solar panels extended. Below it, a vibrant green aurora (Northern Lights) is visible over the Earth's horizon. The Earth's surface, showing clouds and oceans, is visible in the lower half of the image. The background is the blackness of space.

Special thanks to:

- Suzanne Hawley
- Observing Specialists

Apologies to:

- Everyone I perturbed