JUPITER: June 21, 2019
An Astro-Imaging Journey
David B. Viscio
“Actions at Jupiter”
Galilean moon phenomena
Great Red Spot central meridian crossing

June 21, 2019
8:00 PM to 12:00 Midnight
Prescott Valley, AZ

Double event:
Europa and its shadow would transit
The Great Red Spot would cross
Equipment

Celestron EdgeHD 9.25” f/10 SCT
Software Bisque Paramount MX
TheSkyX Pro controls mount
Apple MacBook Pro 13”
macOS 10.6.8
Canon EOS 60Da DSLR
ScopeTronix MaxPower 1.6X amplifier

3,759 mm FL, f/16

Canon EOS Utility (Mac) controls camera
Crop 640x480 video mode
“Lucky Imaging” - Jerry Lodriguss

Capture a ‘bazillion’ images
Pick the ‘best’ 25-35% images
Stack to reveal ‘unseen’ details

4-minute videos at 60 fps & ISO 800
14,400+ images
8-bit MOV format (Apple format)

26 videos captured over about 3 hours
Video/Image Processing

Apple MacBook Pro 15” macOS 10.11.6

Many astro-image processing programs - Windows only

Parallels Desktop 14 & Windows 7

Run Windows programs on Intel-based Macs

Can freely move between MacOS & Windows
1. Quicktime 7 Pro (Mac): convert MOV to AVI - 8-bit

2. VirtualDub (Win): repair AVI video - 8-bit

3. Autostakkert! (Win): stack ‘best’ 5,000 frames - 16-bit TIFF

4. Adobe Photoshop CS6 (Mac): correct color dispersion - 16-bit TIFF

5. Registax 6 (Win): wavelet processing - 16-bit TIFF

6. Adobe Photoshop CS6 (Mac): optimize - 16-bit TIFF

7. Photos (Mac): make slideshow video - 8-bit M4V
Wavelet processed
Contrast optimized - final
Time Required

Set up, video acquisition, break down: 3.5 hours
Video processing 15 minutes each: 6.5 hours
Final video assembly: 2 hours
Total time: 12 hours

40-second video
Saturn July 8, 2019