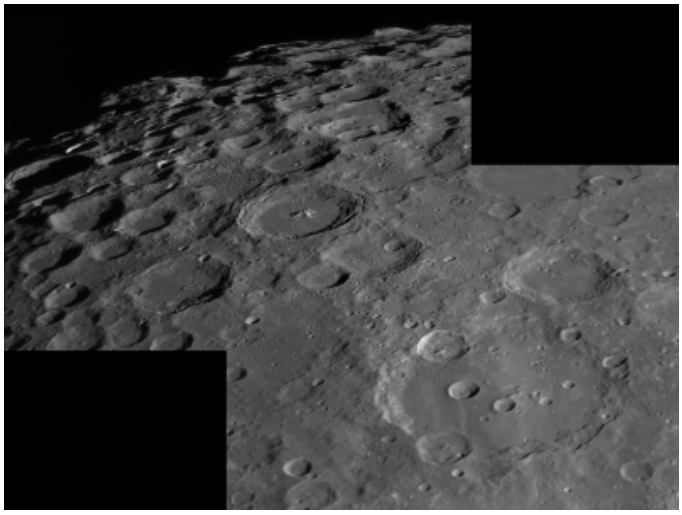
A Standard Celestron 14 inch SCT at its resolution limit?

In spring this year (March and April) at last I was able to test one of the new Celestron/TIS SkyRis 445 mono camera with favorite planetary Celestron 14 SCT-OTA. The telescope is now located at the Onjala guest lodge in Namibia (formally till 2011 at the Rooisand Desert Lodge). With this telescope I was able to take since the year 2007 a lot of high resolution moon images.

At the night of 18th of April the seeing conditions was moderate to good and I took al lot of Raw – Avi files with the SkyRis 445 M using the 14inch OTA and a IR Passfilter from Baader Planetarium company.

I was very surprised of the perfect quality of the final images. The small pixel size of 3.75my seems to harmonize perfect to the prime focal length (3.900mm) of the 14 inch SCT, so no Barlow lens was used. The SkyRis 445 M is of high sensitive and the single RAW images of the Avi file are nearly free of noise.

I will show to examples of this observation session.



First is a mosaic made of 2 Avi files. The final image show the craters Clavius, Moretus and Newton. The mountains at the lunar limb are parts of the northern wall of the South pole Aitkin basin.

The second image is a mosaic made of 4 Avi files. The final image show Rupes Altai (main wall of Mare Nectaris) from Theophilus till Piccolomini and above the crater Riccius and Rabbi Levi.

Note the small craterlets at the bottom of Theophilus and at the central peak one can see different geological rock formation. Image resolution seems to be better than 1.000 meter.

Image details (of both):

Telescope: Standard Celestron 14 inch OTA in prime focus with a SkyRis 445 M using a Baader IR Passfilter
Image caption Software: TIS/iCAP
Exposure time: 1/604 second
Gain: + 12dB
Stacking: each 144/1.200 frames and Wavelet sharpening with AviStack 1.8
Final image processing: Adobe Photoshop CS 2

More images of this observing session (18th of April) and from other nights with the SkyRis 445 M could be find on my private homepage (sorry current only in German language) at

http://www.astrotech-hannover.de/chamaeleon/de/chamaeleon-observatory/moon-images/mond_web_2014/mond_18-04-2014.htm

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