AstroCamp

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Planetary Imaging

At AstroCamp, some advanced campers have the opportunity to do astronomical imaging of deep-sky objects and planets. AstroCamp counselor Lee Keith describes the process each camper uses to image the planet Saturn:

The campers were able to use a computerized 14-inch Meade LX200 telescope to image Saturn. Once Saturn was visible in the telescope, the eyepiece was removed and replaced by a small digital camera, similar to the one in your cell phone or point and shoot digital camera but the pixels are smaller for higher resolution. Next, the camera is attached to a laptop computer via a USB cable. What the camera sees is then viewed on the laptop screen using software that comes with the camera. It is a "live" image not unlike watching TV but you see Saturn as if you were looking through the telescope.

The next step is to record a Saturn "movie", recording thousands of very short (1/50th sec) exposures as a "movie" and then store that movie on the laptop. For AstroCamp, we took a movie that was only 90 seconds long but contained 1300 frames. Due to the blurring effects of our atmosphere, only a small fraction of the frames will be very clear.

To eliminate the fuzzy frames, campers used a free app called RegiStax6. It will automatically combine all the "good" frames into a final single picture that eliminates most of the blurring effects of the atmosphere. The campers used either the best 10% or 15% of the frames (about 200 total) to make their final image. While this image is pretty good, there is one more step that can be used to sharpen and enhance details.

ReguStax6 has an additional step called wavelets that is used to bring out the details in the final image. Click the respective name for the resulting images by [A.J.,](#) [Ashlee](#), [Dakota](#), and [Zoey](#).

Posted by chuck at 3:16 PM on July 11, 2013

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