Subject: Re: CCD saturation
Posted by Wox on Sat, 25 Oct 2008 13:33:36 GMT
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Marshall Perrin wrote:

> Shape detection is not the way to go here, versus detecting the level
> at which pixels saturate. There should be some characteristic number of
> counts per pixel below which you know data is not saturated.

Yes, but this only works for the inner part of a saturated spot + streaks. The edges don't have a value of 65535 (it's a 16bit CCD camera) and can in fact have a lower value than non-saturated spots which I want to preserve. That's why I could only think of shape detection to differ streaks from spots. However I'm not really able to do that. I usually remove a lot of non-saturated spots too.

The problem I want to solve is illustrated here (X-ray Powder Diffraction): http://www.datasqueezesoftware.com/screenbig.jpg
You see the so-called Debye rings in the image in the background and the azimuthally integrated pattern in the front. Usually you don't see this nice rings, but alot of spots forming a ring (or more rings). Imagine azimuthally integrating this when some spots are saturated with streaking. You don't end up with nice Gaussian peaks like in the figure, but some strange ..euhm.. things... that may look like peaks. If I could just detect the streaks and set these pixels to zero, I solved the problem.

Since there are alot of astronomers here, I would think they also have similar problems to solve, only their spots are not scattered X-ray beams but stars :-).