

Re: CMOS vs. CCD -- Link to Article

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- *From:* Phil Wheeler <w6tuh-ng7@xxxxxxxxxx>
 - *Date:* Mon, 05 Dec 2005 15:59:42 GMT
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Roger Hamlett wrote:

"Phil Wheeler" <w6tuh-ng7@xxxxxxxxxx> wrote in message
[news:ikjkf.686\\$hl1.517@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx](mailto:news:ikjkf.686$hl1.517@xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx)

Chris L Peterson wrote:

On Sat, 03 Dec 2005 07:03:34 GMT, "David Nakamoto"
<res07oeg@xxxxxxxxxxxx> wrote:

If they can beat the noise
down to CCD levels, keep the
sensitivity and dynamic range,
and deliver more pixels, then
it would be something.

There is a lot of misunderstanding about CMOS. It isn't necessarily
noisier.

Indeed. My Canon EOS 20D has a CMOS imager and has
very low noise at relatively high ISO values (800 &
1600 are very usable).

Phil

Though this is somewhat 'misleading', since the reason the

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Canon cameras give this performance is partially the internal processing they perform. The chips contain a factory 'noise map', effectively a bias frame, and data on the rate the noise grows with time for each pixel, and if asked not to perform an 'auto-dark' (some models if asked to do long exposures will perform an automatic dark subtraction), will instead synthesise a 'dark' from these numbers, and subtract it. The result is that the dynamic range of the image decreases with longer exposures, and this can be measured and verified. There has been quite a lot of discussion on various groups about just how much processing these cameras do. They perform very well indeed in general, but the noise is not as low as it seems....

I believe for any focal plane, CCD or CMOS, the off-chip processing must be considered an inherent element of the sensor *system*. So I don't regard it as "misleading" but reality.

Phil

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