

Re: Why .avi format ?

Source: <http://sci.tech--archive.net/Archive/sci.astro.amateur/2005-11/msg01830.html>

- *From:* "David Nakamoto" <res07oeg@xxxxxxxxxxxx>
 - *Date:* Tue, 29 Nov 2005 00:10:21 GMT
-

For even Jupiter (Saturn normally does not present any cloud features that show up in amateur imaging) a few minutes of video can acquire a thousand images or more, and a few minutes is not long enough to show motion of the cloud features, at least at image sizes where Jupiter is perhaps a quarter to a third the width of the video, so I don't see this as a major reason to not go video as I think you're implying.

It's true that adaptive optics can produce more consistent, sharper images, but for those that don't have the equipment to do it, video is a good way to go.

As for the readout noise, are you sure you're not referring to sensor or thermal noise? This is a big difference between CCDs and CMOS imagers, and it's the main reason one should use CCDs, in order to get the noise low enough. Technically, readout noise is the noise induced by the circuitry used to read the CCD/CMOS data out, and is different from the noise the sensor itself produces.

--- Dave
--

Pinprick holes in a colorless sky
Let inspired figures of light pass by
The Mighty Light of ten thousand suns
Challenges infinity, and is soon gone

david.nakamoto@xxxxxxxxxxxx

<atasselli@xxxxxxxxxxxx> wrote in message
<news:1133181637.801433.303000@xx>

>
> Chris L Peterson wrote:
>> On Sun, 27 Nov 2005 20:58:48 -0500, Tom Rauschenbach
>> <tomsusenet@xxxxxxxxxxxx> wrote:
>>
> <snip>
>>
>> There is only one fundamental benefit of short exposures-- the ability to
>> capture images during brief moments of atmospheric stability. A

Re: Why .avi format ?

>> collection of many images can be graded for quality and the bad ones
>> discarded. This is functionally equivalent to high order adaptive
>> optics.

>
> Not really. High order adaptive optics allow to correct the exit pupil
> phase differences while select-and-stack simply rejects those that do
> not qualify. If time is important (and it IS important in planetary
> imaging as the planets rotate) and the resolution is high, video
> imaging does not even come close to the performance (theoretically)
> achievable with adaptive optics. The only real good thing of video
> imaging is that it can operate in the visible without any restriction
> (except for coherence angle, of course). And, yes, it is immensely

>
>
>>Readout noise makes for a stiff noise penalty, but with hundreds
>> or thousands of images the noise is substantially reduced. But the
>> technique is only useful for very bright objects– the Sun, Moon, and a
>> few planets.

>
> This depends on the read-out noise. The lower it is the less different
> the 2 techniques are.

>
>>
>> Once you start imaging DSOs, you need long exposures– many minutes is
>> usually required to maximize S/N.

>
> Not really. I've been imaging DSOs for the past 4 years without ever
> taking exposures longer than 120s, 45s to 60s being the most common
> durations. With low read-out noise camera there are benefits in using
> short exposures.

>
> Regards
>
> Andrea T.
>

• **Follow-Ups:**

- ◆ **Re: Why .avi format ?**
◇ From: atasselli@xxxxxxxxxxxx

• **References:**

- ◆ **Why .avi format ?**
◇ From: Tom Rauschenbach
- ◆ **Re: Why .avi format ?**
◇ From: Davoud
- ◆ **Re: Why .avi format ?**

Re: Why .avi format ?

◇ *From:* Tom Rauschenbach

◆ ***Re: Why .avi format ?***

◇ *From:* Chris L Peterson

◆ ***Re: Why .avi format ?***

◇ *From:* atasselli@xxxxxxxxxxxx

- Prev by Date: ***Re: Software advice for stacking photos***
- Next by Date: ***Re: zhummel dobs***
- Previous by thread: ***Re: Why .avi format ?***
- Next by thread: ***Re: Why .avi format ?***
- Index(es):
 - ◆ ***Date***
 - ◆ ***Thread***