

Re: Nikon D70 DSLR on microscope: Update

Source: <http://sci.tech-archive.net/Archive/sci.techniques.microscopy/2004-12/0187.html>

From: GTO (gregor_o_at_NOSPAMyahoo.com)

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The dynamic range of digital vs. film needs some clarification. A dedicated microscopy camera with a 14 or even 16-bit A/D offers a comparable dynamic range to the one of color negative film (up to 9 f-stops). The 12-bit A/D of most digital cameras offers at least as much dynamic range as color slide film (5 to 6 f-stops).

If an image feature causes bright reflections, proper episcopic illumination with a polarizer can help a lot. I used a Nikon CF BD Plan 50x objective with episcopic illumination to look at metal surfaces (such as coins) without any problems even with a digital recording device with only 10-bit A/D (http://geocities.com/gregor_o/USCoin03.jpg).

Gregor

"Richard J Kinch" <kinch@truetex.com> wrote in message
news:Xns95CEFCBA5E41someconundrum@216.196.97.131...

> *KBob writes:*

>

>> *I'm trying to shoot the irregular*

>> *surface of a silver amalgam filling, and the specular highlights from*

>> *the mercury specks (or something) is making this task difficult.*

>

> *All digital cameras have very, very narrow dynamic range, compared to*

> *film.*

> *Highly dynamic scenes like yours are a problem. You have groups of*

> *entirely washed-out pixels, and surrounded by more pixels that are color-*

> *aberrated.*

>

> *This would seem to require some kind of non-linear optical filter to*

> *correct (does that exist?).*