

Re: Just how much can we magnify?

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Thanks Kevin, but I think you missed my point. I understand the difference between detection and resolution. I just meant it to be a question "in passing". I know it has little (or maybe no) practical application.

However I don't believe the assertion that "detection without resolution is useless" stands as a blanket statement. Ask any astronomer!

And therefore, in a light microscopy context, I would have thought detection of "something" could be useful too. With suitable CCD, image calibration and calculation, an unresolved feature could yield quantitative statistical data about its area coverage in relation to the Airy disk, or the Raleigh limit, or whatever? Total (reflected or transmitted) photon flux is altered in deterministic manner, and could be compared to a reference level, right? That's not wholly useless, is it? There must be useful science available from statistical data of that type.

So, to explore that idea, I asked how small a (lone) dot must be before it is undetectable with a light microscope. This is clearly well below the 0.2 micron resolution limit – but how far below?

Cheers

Beats