Subject: What's the meaning of negative fluxes in source photometry?
Posted by Sonu Tabitha on Mon, 09 May 2016 05:07:01 GMT
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I generated a synthetic image with one source (Gaussian PSF) with a peak flux intensity of 10Jy. At lower signal to noise ratios I got some false detction having negative fluxes. What is the meaning of negative fluxes actually?

Subject: Re: What's the meaning of negative fluxes in source photometry?
Posted by Jeremy Bailin on Tue, 10 May 2016 17:24:12 GMT
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On Monday, May 9, 2016 at 12:07:04 AM UTC-5, Meegle_Jade wrote:
> I generated a synthetic image with one source (Gaussian PSF) with a peak flux intensity of 10Jy. At lower signal to noise ratios I got some false detction having negative fluxes. What is the meaning of negative fluxes actually?

If you take the sum of a pure median-subtracted noise field, approximately half of your pixels will be positive and half negative, with an average sum of zero. But there are fluctuations around that (because it's noise), so the sum could be slightly positive or slightly negative, depending on how many pixels you have and the average noise level per pixel. If your signal is not significantly larger than the total fluctuation, then a negatively-fluctuating background can be larger than the signal of your source, giving a negative flux.

-Jeremy.