Daizhong LIU <dzliu@pmo.ac.cn>
To: Emanuele Daddi
Re: Re: GOODS-North Source Deblending Issues

4 décembre 2014 11:57

OK! Will do after launching the galfit on 100! Thanks!
Best wishes!
Daizhong

> -----Original Messages-----
> **From:** "Emanuele Daddi" <edaddi@cea.fr>
> **Sent Time:** Thursday, December 4, 2014
> **To:** "Daizhong LIU" <dzliu@pmo.ac.cn>
> **Cc:**
> **Subject:** Re: GOODS-North Source Deblending Issues
>
> OK, ideally would be nice if you could plot both info, number and number/beam, using the two y axis (left and right)
>
> But never mind now, just for the next round at 160
>
> Emanuele
>
> > On 04 Dec 2014, at 11:47, Daizhong LIU <dzliu@pmo.ac.cn> wrote:
> >
> > Hi Emanuele,
> > Here is the plot with number per beam in goodArea.
> > Best wishes!
> > Daizhong
> >
> >
> > > -----Original Messages-----
> > > **From:** "Emanuele Daddi" <edaddi@cea.fr>
> > > **Sent Time:** Thursday, December 4, 2014
> > > **To:** "Daizhong LIU" <dzliu@pmo.ac.cn>
> > > **Cc:**
> > > **Subject:** Re: GOODS-North Source Deblending Issues
> > >
> > > Can you do this only for goodArea==1 and report on the right y-axis the number per beam ?
> > >
> > >
> > > > On 04 Dec 2014, at 11:17, Daizhong LIU <dzliu@pmo.ac.cn> wrote:
> > > >
> > > > Hi Emanuele,
> > > > Here is the plot showing cutting flux versus number of objects left, for 100um.
> > > > I'm only cutting by SED flux, i.e. `xf100+2*xe100<cuttingflux`, no S/N constraint, right?

Thank you for having a look!
Best wishes!
Daizhong

-----Original Messages-----
From: "Daizhong LIU" <dzliu@pmo.ac.cn>
Sent Time: Monday, November 24, 2014
To: "Emanuele Daddi" <edaddi@cea.fr>
Cc:
Subject: Re: Re: GOODS-North Source Deblending Issues

Hi Emanuele,
Yes! We'll do simulation on 24um first!
Ah, yes, my calculation was wrong! The goodArea is defined as noise24<0.006 in "goFine.sm", so I computed the rough area of goodArea to be 111 arcmin-square from 24 rms map! While the GOODSN filed area is 160 arcmin-square. Here is the new number density per beam:

```
# lambda    100    160    250    350    500   1160   # um       --
  F_excl   0.34   1.35   2.00   5.00   5.00   1.10   # mJy      -- the flux limit of exc! luded objects
  N_excl    211    538    906   2504   2875   2608   # number   -- the number of excluded objects
 df_simu   0.34   0.72   1.57   2.30   2.38   0.61   # mJy!       -- the median df (corrected) from simulations
 df_good   0.35   0.74   1.52   2.56   2.55   0.63   # mJy      -- the median df (corrected) of goodArea included objects
 df_incl   0.37   0.80   1.70   2.92   3.14   0.67   # mJy      -- the median df (corrected) of all included objects
  N_incl   3153   2826   2458    860    489    756   # number   -- the number of all included objects
  N_good   2184   1896   1617    491    254    443   # number   -- the number of goodArea included objects
rho_incl   0.89   2.22   4.44   2.91   3.51   1.57   # per beam -- the number per beam of all included objects (160 arcmin^2)
rho_good   0.89   2.15   4.21   2.39   2.62   1.33   # per beam -- the number per beam of goodArea included objects (111 arcmin^2)
  N_adds      0      0     17     13     13     15   # number   -- the number of new objects selected by hand at each band
```

Thanks!
Best wishes!
Daizhong

-----Original Messages-----
From: "Emanuele Daddi" <edaddi@cea.fr>
Sent Time: Sunday, November 23, 2014
To: "Daizhong LIU" <dzliu@pmo.ac.cn>
Cc:
Subject: Re: GOODS-North Source Deblending Issues

But please wait, if you agree to finalise 24um first

And about the table, what you are computing I think is not good. You just need to replace the area you had in rho before with a smaller area corresponding to goodArea

Emanuele

On 23 Nov 2014, at 13:55, Daizhong LIU <dzliu@pmo.ac.cn> wrote:

Ah! It's a typo! Yes, we were using SED_f100+2*SED_df100, and we were not using S/N<5 constraint for previous run. I'll do the same for this run.
Thanks for the checking! I'll send the residual map of 100um when I get it!
Best wishes!
Daizhong

-----Original Messages-----
From: "Emanuele Daddi" <edaddi@cea.fr>
Sent Time: Sunday, November 23, 2014
To: "Daizhong LIU" <dzliu@pmo.ac.cn>
Cc:
Subject: Re: GOODS-North Source Deblending Issues

> On 22 Nov 2014, at 22:18, Daizhong LIU <dzliu@pmo.ac.cn> wrote:
>
> Hi Emanuele,
> Yes!
> So I will start these tonight:
> At 16 band:
> (1) Do galfit on 16 original map, including all catalog objects and the added objects;
> (2) Subtract smoothed background and make 16 background-subtracted map;

for (1) and (2) we can trust what we had already, no need to redo! perhaps also (3) ?

> (3) Do galfit on 16 background-subtracted map, including all catalog objects and added objects;
> (4) Do SED fitting with IRAC+MIPS24+16 to predict 100;

ok. For the SED fitting you will be using diff_SB (MS vs SB) and the new radio AGN definition

> At 100 band:
> (1) Do galfit on 100 original map, including all catalog objects and the added objects;

I think it's fine to include the 'added objects'. However, we might have to add new ones after all the rounds this time, and make a final last run at all bands

> (2) Subtract faint objects with (SED_f100+SED_df100)<0.34mJy; (TODO: do we need the signal-to-noise constraint (Galfit_f100/Galfit_df100)<5.0?)

ah I see a problem here, it should be SED_f100+2*SED_df100<0.34mJy

is it just a typo or you were using this also before, for the table, etc ?

no need for the S/N<5 criterion

> (3) Do galfit on 100 faint-object-subtracted map, including bright catalog objects and added objects;

here let's check for the presence of galaxies in the residual map. Please have a look and send it also to me, before going on to 160
(but in the meanwhile you can launch (4) below, which is independent

Cheers
Emanuele

> (4) Do SED fitting with IRAC+MIPS24+16+100 to predict 160;
> At 160 band:
> (1) Do galfit on 160 original map, including all catalog objects and the added objects;
> (2) Subtract faint objects with (SED_f160+SED_df160)<1.35mJy; (TODO: do we need the signal-to-noise constraint (Galfit_f160/Galfit_df160)<5.0?)
> (3) Do galfit on 160 faint-object-subtracted map, including bright catalog objects and added objects;
> (4) Do SED fitting with IRAC+MIPS24+16+100+160 to predict 250;
> Are these steps correct? Thank you for checking these!
> Best wishes!
> Daizhong

> -----Original Messages-----
> **From:** "Emanuele Daddi" <edaddi@cea.fr>
> **Sent Time:** Saturday, November 22, 2014
> **To:** "Daizhong LIU" <dzliu@pmo.ac.cn>
> **Cc:**
> **Subject:** Re: GOODS-North Source Deblending Issues
>
> Looks good Daizhong. The MS is also settled, I think, and the new radio criterion easy to incorporate, so I guess you can re-start with the catalog making
>
> For 100 and 160 just keep the same threshold for exclusion and you can run them both, we can check the residual maps afterwards but we did not find anything before anyway. Than predict 250um and let's have a look together, I think we have to rise the exclusion threshold from 2.0mJy to perhaps 3.0 as we have too high surface density of targets I think
>
> Have a good weekend!
> Emanuele
>
> > On 22 Nov 2014, at 00:33, Daizhong LIU <dzliu@pmo.ac.cn> wrote:
> >
> > Hi Emanuele,
> > Here is the new table of the df included/excluded values! I'm using the corrected df values in the latest plots for consistency. Thank you for checking these!
> >
> > ```
> > # lambda     100    160    250    350    500    1160   # um       --
> >   F_excl    0.34   1.35   2.00   5.00   5.00   1.10   # mJy      -- the flux limit of exc! luded objects
> >   N_excl     211    538    906   2504   2875   2608   # number   -- the number of excluded objects
> >  df_simu    0.34   0.72   1.57   2.30   2.38   0.61   # mJy      -- the median df (corrected) from simulations
> >  df_incl    0.37   0.80   1.70   2.92   3.14   0.67   # mJy  &! nbsp;   -- the median df (corrected) of all included objects
> >   N_incl    3153   2826   2458    860    489    756   # number   -- the number of all included objects
> > rho_incl    0.89   2.22   4.44   2.91   3.51   1.57   # per beam -- the number per beam of all included objects
> >   N_adds       0      0     17     13     13     15   # number   -- the number of new objects selected by hand at each band
> > ```
> > **Best wishes!**

Daizhong

-----Original Messages-----
From: "Daizhong LIU" <dzliu@pmo.ac.cn>
Sent Time: Saturday, November 22, 2014
To: "Emanuele Daddi" <edaddi@cea.fr>
Cc:
Subject: Re: Re: GOODS-North Source Deblending Issues

Hi Emanuele,
Yes! Thanks! That's a most reasonable explanation, because I also tested removing some sim objects at the high end of luminosity function but the change is very small (~0.02 mJy). I'll make the new table soon tonight!
Best wishes!
Daizhong

-----Original Messages-----
From: "Emanuele Daddi" <edaddi@cea.fr>
Sent Time: Friday, November 21, 2014
To: "Daizhong LIU" <dzliu@pmo.ac.cn>
Cc:
Subject: Re: GOODS-North Source Deblending Issues

Excellent Daizhong, looks much better now. And it seems the crowdness might give the extra noise. First by giving higher df from galfit, and afterwards for the crowdness correction

Can you make the table again with the new numbers ?

Thanks
Emanuele

On 21 Nov 2014, at 14:27, Daizhong LIU <dzliu@pmo.ac.cn> wrote:

Hi Emanuele,
Thanks for this idea! Now I have removed the 0.02 dm threshold, and also corrected two bugs! (One is that the residual flux should be log when correcting catalog objects, but I forgot to make log; another is that the "crowdness" should ! also be log but seems I missed for catalog objects.) Here are the new plots. Now the procedures done for catalog objects and simulated objects are redone and are checked to be identical. And now on 500 map the difference between median df is just ~0.8 mJy!
Besides, on top of these plots I also show the histogram of the "crowdness" parameter. Seems on the 350 and 500 map, there are much more catalog objects which have large crowdness values!
Thank you for checking these plots!
Best wishes!
Daizhong

-! ----Original Messages-----
From: "Emanuele Daddi" <edaddi@cea.fr>

Sent Time: Friday, November 21, 2014
To: "Daizhong LIU" <dzliu@pmo.ac.cn>
Cc:
Subject: Fwd: GOODS-North Source Deblending Issues

Hi Daizhong

if you look at this plot you will see a different behaviour mostly at the bright end. There we are forcing a dm=0.05 minimum, I think ? of course this would alter the statistics. Could you please check if this is the reason and/or any other asymmetric treatment of sims versus obs ? (please apply to obs the exact same procedure as for the sims)

Thanks
Emanuele

> **Begin forwarded message:**

<scatter_of_cfdf100.eps><scatter_of_cfdf160.eps><scatter_of_cfdf250.eps><scatter_of_cfdf350.eps><scatter_of_cfdf500.eps><scatter_of_cfdf1160.eps><scatter_of_sfdf100.eps><scatter_of_sfdf160.eps><scatter_of_sfdf250.eps><s! catter_of_sfdf350.eps><scatter_of_sfdf500.eps><scatter_of_sfdf1160.eps>

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