Subject: Re: SDSSJ0909+4449
From: Stella <stella@usm.lmu.de>
Date: 30.07.22, 10:00
To: Giacomo Queirolo <astrogiacomoqueirolo@gmail.com>
CC: Arno Riffeser <arri@usm.lmu.de>, Raphael Zöller <rzoeller@mpe.mpg.de>, mkluge@usm.lmu.de

Das Problem ist das large Image splitting. It one galaxy alone does the lensing but it is assisted by a cluster or group. Hence you will need other strong lensing features to determine the lens model better. The pro is that for cluste scale lenses w large time delay the relative error of the time delay becomes small. Hence this is not the limiting factor if the Hubble constant estimate, but rather the lensmodel only.
Giacomo : are there other lenses?
Cheers, Stella

> On 29. Jul 2022, at 17:53, Giacomo Queirolo <astrogiacomoqueirolo@gmail.com> wrote:

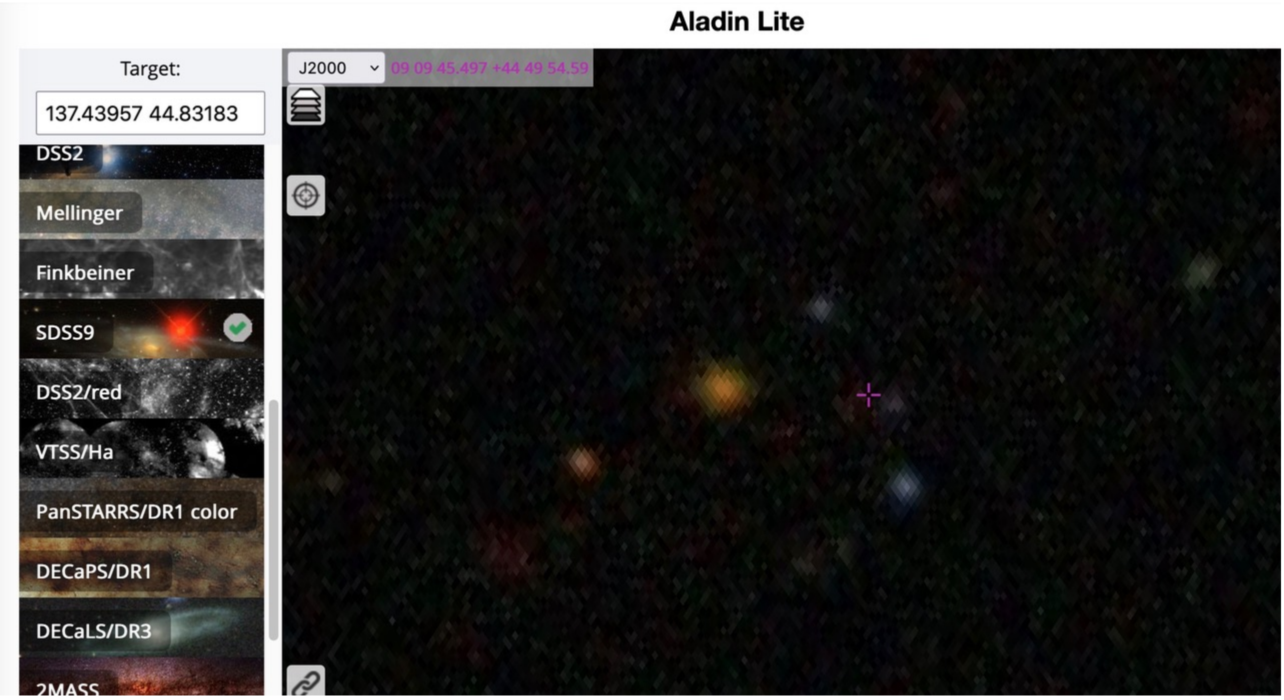
> Dear all,
>
> This object, while not having HST data, might be still interesting, mostly because there is the hypothesis of the presence of a 4th, undetected image, and the very large separation.
>
> This on the other hand might be problematic for the time delay as is usually scaling proportionally with the separation, and might well be over a year in my opinion. Also, it is lensed by a group of galaxies, not a single massive one.
>
> Finally, I only found one paper discussing it in length, and the main author is a member of the MPA lensing group at garching, which lensing seminar I will attend on Monday morning. If he is there I can talk to him about it but from what I am reading I think he would be interested in deep observations of it:
>
> https://arxiv.org/abs/1809.07337
>
> > **Deeper imaging data,** spectroscopic observations, and follow-up light curve measurements will be helpful in determining which hypothesis is correct and provide better constraints on the lens mass distribution. Nevertheless, given its unusually large image separations, SDSS J0909+4449 will be a unique probe for the mass structure and the underlying cooling and stellar feedback processes on group or cluster scales.
>
> We can discuss it more in detail monday afternoon maybe?
>
> Cheers,
>
> Giacomo
>
> On 28.07.22 21:26, Arno Riffeser wrote:
>
>> Hello Raphael,

with SDSSJ0248+1913 you lose a maximum of 42% compared to Coma:
100.*(1.-10**(-0.4*(1./np.sin(50./180.*np.pi)*(0.489-0.035))))
= 42.06539687024201 %
That is already quite a lot...

So I just searched for multiple lenses with SDSS in their name, having dec>30 and RA<140
with respect to Come (RA=195) and found the following interesting one for us:

Name RA DEC b W1-W2 zqso zlens sep. N Gaia_density
SDSSJ0909+4449 137.43957 44.83183 42 0.703 2.788 0.9? 14 3
2887

A_u = 0.067 and low number of sources!



Observations could start in November with 2.5 h...

only HST images are missing...

Cheers
Arno

ronik anzuzeigen