

Dear Tommaso and Phil,

I've read your draft and have a few minor comments.

I thought the review of line-of-sight structures was great - I wondered what happened to the roadmap for work on the line-of-sight? It seems that piggybacking on large MOS surveys and weak lensing can give us a lot of information for free - maybe worth pointing that out?

I don't like this statement

Conversely, the significant disagreement of two blind and independent measurements, could be the first sign of new physics.

blindness doesn't exclude systematics. Disagreement between unblinded measurements is in some sense a more compelling sign of new physics since experimenter bias tends towards agreement with existing datasets.

This sentence is a little underwhelming:

As surveys yield larger and larger samples of lenses, we can think of carrying out joint inferences with ensembles of both time delay lenses, and also all other lenses, to bring in more information about the density structure of somewhat self-similar massive galaxies.

We are expecting a step-change in the number of galaxy-galaxy lenses over the next decade. These systems can provide a wealth of information about the density profiles of lenses and hence inform the priors for the time-delay lenses. I think it's worth strengthening this point.

Finally, I feel the last paragraph is defeatist. It reads like an expectation that we won't be able to do cosmology because lensing will require us to learn too much astrophysics. I'd go for a final paragraph like:

... Studying lensed quasars will also allow us to study A large sample of well measured time-delay lenses will allow us to simultaneously probe both this diverse range of astrophysics and the cosmological parameters.

Also, there are many sentences that read like musings, rather than concise statements of opinion. No doubt that'll get improved over the iterations.

Cheers,
Tom

p.s there's also a typo where you say "much much"

On 22 April 2016 at 18:38, Tommaso Treu <tt@astro.ucla.edu> wrote:

Dear collaborators,

in the past several months we have been writing a review entitled "Time delay cosmography", invited by Eiichiro Komatsu, to appear in Astronomy and Astrophysics Review. We plan to post the draft review on arxiv on [May 6](#), in order to gather feedback from the broad community, and then submit to the journal by the deadline [May 15](#).

We thought you might be interested in reading the current draft and we would be most grateful if you could give us any comments or feedback you might have before [May 5](#), so that we can correct any errors or omissions before posting on arxiv. We have included a lot of references, but we would not be surprised if we have missed some important contribution. We apologize in advance for any oversight, and we would be grateful if you could point it out.

The current draft is available as TM16.pdf from our public GitHub repository:

<https://github.com/tommasotreu/AARV>

Please feel free to download and read it! We welcome your feedback, preferably by writing us an issue at

<https://github.com/tommasotreu/AARV/issues>

You can also send private e-mail to both of us, and we'll redact it and issue the edits ourselves. We like tracking feedback via issues because it allows new readers to see what has already been flagged. Feel free to join in the conversation!

Thank you very much in advance for your help.

Best wishes,

Tommaso & Phil

p.s. please do not circulate the draft or link to third parties for the moment. We plan on sending it out to a wider group of readers after we starting hearing back from you.

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