

Telecons ISSI H_0 Team, Dec 9-10, 2021

Friday, December 10 (all times are in CET)

15:40 – 15:55 + 5 **Richard Anderson** – *Astrophysical systematics of Cepheid distances*

16:00 – 16:15 + 5 **Adam Riess** – *New results from the SH0ES Team*

16:20 – 16:50 + 10 **Marcella Marconi** – *Metallicity dependence of Cepheid PL and
Giulia De Somma PW relations: theory vs observations*

17:00 – 17:40 All – *Discussion and planning*

End of telecon

What next ?

- Identification of topics/results on which to focus the work:
list of open issues
- formation of working groups
- Identification of possible works/collaborations on ideas
emerged in these two days
- Definition of a roadmap to “solve”/ “understand” the H_0
tension

Open Issues - Main questions:

1. Trigonometric calibration of primary indicators:
Gaia parallaxes, zero point offset, systematics (chromaticity effect for variable sources, extended atmospheres, shells etc. for LPVs, Cepheids...), in DR3 and future releases
2. Do we really need new physics, could a different relativistic approach e.g. a different treatment of relativistic effects have an impact?
3. Is the SNe Ia physics really understood and the standardization of these candles good enough?
4. What might be wrong/un-accounted in LCDM?
.... a cosmologist's view ...

List of possible topical working groups:

1. Cepheids & RR Lyrae
2. Gaia (astrometry, variable stars, relativistic models)
3. Asteroseismology
4. LPV+TRGB
5. **any other?**