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Spacetime variations of the varying alpha: The first 1000 high-precision measurements

Thursday, 15 September 2016 09:00 (1 hour)

We are preparing a large sample of high-precision varying alpha measurements using quasar spectra. The measurements are being made using the new automated AI methodology described in arXiv:1606.07393 which eliminates any important human bias. A detailed study of long-range wavelength distortions in UVES/VLT and HIRES/Keck samples will also be described. I will show that such distortions are indeed present, but do not explain the tentative spatial variation of alpha, contrary to a previous claim. Moreover, long range wavelength distortions can be accurately measured using the quasar spectra themselves and hence can be removed from the final set of alpha measurements.

Summary

Presenter: WEBB, John (UNSW)

Session Classification: Plenary session IV