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Testing the SALT High-Resolution Spectrograph for Pulsation Studies of roAp Stars

Poster on-line

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Abstract. We present the first time-resolved spectroscopic observations, made with the SALT HRS instrument, of a rapidly oscillating Ap star. We used the instrument in the High Stability mode, with the fastest readout settings – a setup never previously used. Over a 2.5-hr track length, we obtained 280 spectra at 8-second integration times and a cadence of 30 seconds. The target, α Circini, is the brightest of the roAp stars, and thus provides an excellent opportunity to test the instrument. Previous time-resolved spectroscopic studies of this star have been conducted by Kurtz, Elkin & Mathys† with the VLT/UVES instrument, and by Mkrtichian & Hatzes‡ with the HARPS instrument on the ESO 3.6-m telescope. Those two studies provide us with benchmarks to compare the performance of SALT/HRS for this type of project. With the upcoming TESS mission, the ability to perform high-precision, time-resolved spectroscopy of pulsating stars will be key for the scientific output of SALT.

Keywords. Stars: oscillations, instrumentation: spectrographs, techniques: spectroscopic

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For the full poster, see http://dx.doi.org/10.1017/S174392131800282X

† Kurtz, D. W., Elkin, V. G., & Mathys, G. 2006, MNRAS, 370, 1274
‡ Mkrtichian, D. E., & Hatzes, A. P. 2013, ASPCS, 479, 115