

Lesedi HRS Project Wiki

- This wiki is for construction of a high-resolution spectrograph on the 1-m Lesedi telescope in Sutherland. We anticipate future wikis for the user manual and for technical support.
- The SAAO and Christian Schwab (Macquarie Univ. and AAO) are collaborating on the project.
- The instrument is based on a design that Christian modified from NEID, an innovative HRS for use on the 3.5-m WIYN (<https://neid.psu.edu/>). We are hoping to reach a few m/sec accuracies for radial velocity measurements on Lesedi.

Project Team

Remote Expert & Collaborator: Christian Schwab (Macquarie U./AAO)

Instrument PI: Hannah Worters

Project Sponsor/Co-I: Amanda Sickafoose

Co-Is/Postdocs/Student: Nic Erasmus, others?

Local Expert Consultant: Lisa Crause

Mechanical Design: James O'Connor (oversight), Egan Loubser, Craig Sass

Software Engineers: Carel van Gend, Briehan Lombaard

Documentation

- Add notes from Christian's emails here
- Rough purchasing list from Chris' visit 03/2018. He can likely supply the prism, collimator, and fiber injection:

\$35k bench optics
 \$55k Echelle grating
 \$3k fiber injection optics
 \$30k collimator/ADC/refocus mechanism

Detectors

- We have gone through the SAAO CCD store, and there are 5 engineering CCDs from SALTICAM and RSS (e2V 44-82, 1k x 2k) that can be considered:

Serial No.	Coating	Failure	QE (350,400,500,650,900,1000 nm)	Located
01394-08-01	astrobroadband	fullwell 129k (vs. 150)	54,70,78,75,45,10	??
01394-21-01	coated	CTE 99.9985	16,39,65,97,60,13	in lab

Lesedi_HR_Spectrograph_(name_TBD)

01451-16-02	coated	CTE 99.977	13,35,68,86,54,10	in lab
01502-15-01	coated	low level structure @ 350nm	15,44,27,75,60,13	in lab
04484-03-02	AR coated	low QE (3%) at 400 nm	41,67,80,80,53,10	in lab