Observational Astrophysics
13. Topics for the Second Seminar

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1 Optical and near-infrared instrumentation

The topic for the second series of seminars is "Current Instrumentation in the Optical and Near Infrared". **The date for the presentation of these seminars is December 14.**

The goal here is for us to get to know more information about some of the photometric and spectroscopic instruments for which we can either apply to get observing time or that were used in surveys with public data that we can use.

I included in the list three instruments at telescopes of ESO at the La Silla Observatory, the two cameras of the Survey Telescopes at the Paranal Observatory, and a few cameras and spectrographs from other telescopes that have been conducting surveys.

For each instrument, you can find links that will take you somewhere where further information can be found. For the ESO instruments, I linked the instrument webpage. For the others, it is actually hard to find webpages with proper information. In these cases, the links will take you to a publication.

Instructions are: you should plan to use 4-5 minutes for your presentation. This probably means something like 3-5 slides.

Try to find the following information to mention in your seminar (some items are relevant for photometry cameras, other items are relevant only for spectrographs): mention the telescope where the instrument is mounted (at least mention the diameter of the primary, in which type of focus the instrument is mounted, and where in the world is the telescope located); can the instrument be used in service and/or visitor mode?; if you can find it, please show a layout of the instrument; what are the different modes in which the instrument can operate (some instruments are multi mode, others not; if your instrument is capable of polarimetry you just need to mention it, but do not need to go in detail as we did not cover polarimetry yet); what is the field of view (for imaging)?; what are the (standard/basic) set of photometric filters available for use (for imaging)?; can the observers bring their own filters?; if the filters are uncommon, please add information about the passbands; is fast photometry possible (if yes, in which cadence)? what is the policy for photometric standards (is it responsibility of the observatory or of the observer to obtain observations for standards)? what is the wavelength range of operation? (for spectroscopy);

what types of dispersing elements are available for spectroscopy? and if several, can they easily be exchanged during the night? (prisms, grisms, reflection gratings, transmission gratings, echelle grating with cross disperser); mention the options for the entrance slit (can we control the slit width? and the slit length? are there fixed slit sizes? is it possible to use in multi slit mode? how are the multi slits done?); or is it that instead of slits the light is collected by a fiber (or fibers)?; what (range of) resolving power can be achieved?; and maybe any other useful information that you can find.

If your instrument is/was conducting survey(s): please, add some basic information about the survey(s), including which fields were being observed; if a particular type of object was targeted; where data from the survey(s) can be found?; if fields/targets are observed only once or are they monitored regularly?

My tips: The links that I give below can serve as starting point, but you might need to look for information elsewhere also. Places where you can find useful information include instrument manuals and the call for proposals of the telescopes. Most instruments/surveys are described in dedicated publications (in addition to traditional journals like ApJ, A&A, etc, see also SPIE proceedings, or in "the Messenger" for ESO instruments). **If there is a particular reference that you think will be useful, but that you do not have access and can not download, do let me know. I might be able to download the publication elsewhere and send you a copy**.

Anyway, remember that this is a short seminar (max 5 min) meant to give only a general overview of the instrument (and, in case, of the surveys).

1. EFOSC2: ESO Faint Object Spectrograph and Camera
2. HARPS - High Accuracy Radial velocity Planet Searcher
3. SOFI: Son Of ISAAC
4. OmegaCAM at the VST
5. VIRCAM (VISTA InfraRed CAMera)
6. DECam - Dark Energy Camera
7. OGLE-IV: Fourth Phase of the Optical Gravitational Lensing Experiment
8. BOSS Spectrograph
9. APOGEE spectrographs
10. Pan-STARRS