

Questions, Comments and Answers following the presentation

Sky subtraction with fiber-fed spectrograph

Myriam Rodrigues

Pasquini: In the cross-beam switching mode, do you plan to make the distance and angle between the 2 fibres optional values for the user?

This will depend on the instrument. In MOONS, the fibres within a pair are independent. Since the nodding is done at the level of the telescope, all pairs in a field should have the same separation and angle. The preparation software will compute the best distance and angle for a given field. On the other hand, for MOSAIC@E-ELT the pairs of fibres will be physically linked, which mean that the distance will be fixed. However, since the nodding will be done at the positioner level (positioning arm), the angle could be different for each pair of the field.

Lupton: You seem to have given up on using sky fibres in favour of XSwitch. This seems pessimistic; does everyone think that XSwitch is necessary?

On the contrary it is an optimistic result! This means that we do have a least one solution to the issue of sky subtraction for faint targets in the near infrared observation of fibre-fed spectrographs. However XSwitch comes with a huge cost in terms of multiplexing. The development of sky-subtraction strategy in both MOONS and MOSAIC are not frozen. We are investigating other solutions for sky subtraction for these instruments. We have started an observing campaign to better understand the properties of the near-IR sky, in terms of spatial and temporal variability of both sky lines and background.

Osip: You alluded to not being able to nod with the ELT: why is this a limitation? Even the AO WFS will need a certain throw.

We need to maintain the AO loop close and nod to a relatively large distance.

Mendel: For faint sky lines, which might vary by 100% on scales $< 1''$, how can we model or correct the sky contribution?

We still don't know if we can model these lines. To answer this question, we need to catalogue, identify and study the variability of these faint lines. Work in progress!

Smette: Have you looked into CRILES spectra? (We have a study with Daniel Asmus on OH lines)?

Yes, a high-resolution skylines catalogue will be definitively extremely useful to identify and better understand the behavior of these faint lines.

Sanj: Which trends of the faint lines within the spatial direction of IFUs?

These faint lines vary in the spatial scale of KMOS IFU.