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Data processing for high-resolution spectroscopy: today and tomorrow

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INAF has a long tradition in the treatment of spectroscopical data. The Astronomical Observatory of Trieste (OATs), in particular, has always been at the forefront of the field, both validating the state-of-the-art software (e.g. the VLT UVES and X-shooter pipelines) and implementing new solutions
for the analysis of near-UV to near-IR medium-to-high resolution quasar spectra.
In this talk, I will present some of the results we distributed through the years: the XQ-100 catalogue of processed quasar spectra, the Data Analysis Software for VLT ESPRESSO, and the new Python package Astrocook, which is aimed to pave the way towards the next-generation instruments like the ELT hi-res spectrograph. I will emphasize the core features of our approach (automation through abstraction of human behavior, modularity, graphical functionalities) and underline the most important challenges for the future (integration with the archive infrastructure, end-to-end instrument simulation).

Presenter: CUPANI, Guido

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