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Title: 4MOST Galactic pipeline: radial velocity and pysme stellar parameters

Time: 10:00-11:00, 11 December (Wednesday), Shanghai time

Host: Fabo Feng

Location: N600

Join Tencent Meeting: <https://meeting.tencent.com/dm/UjI0r7MqRofo>

Meeting ID: 688312343 (no password)

Abstract:

The 4-m Multi-Object Spectroscopic Telescope (4MOST) is one of the ESO community survey with a large field-of-view to survey the southern sky in a few years, delivering spectra for ≥ 25 million objects over ≥ 15 000 square degrees in R~6000 and R~20000. 4MOST is currently in its manufacturing, assembly, integration and test phase with an expected start of full science operations within a year. As the date of first light approaches, the pipelines for galactic and extragalactic sources are also in intense developments. I will introduce parts of the recent process for the 4MOST galactic pipeline (4GP): radial velocity and pysme submodule. These module serve as the main part to determine stellar parameters, and although they can be treated as merely finding the best-match template spectra to the observed ones, the implementation to a survey is not so simple. The correct uncertainty estimation requires a homogeneous set of synthetic spectra in 4MOST format, and we are in a transition period from 1D-LTE to NLTE or even 3D-NLTE template. These submodules, together with other ones in 4GP, will help us extract the information of the 4MOST spectra, and a smoother process for the following science cases.

Biography:

简明杰，斯德哥尔摩大学博士后。2012年本科毕业于北京师范大学，2022年博士毕业于东京大学，主要研究兴趣为银河系考古学以及大质量恒星光变。曾用WINERED/NTT、X-Shooter/VLT、iSHELL/IRTF以及APOGEE巡天等光谱数据研究恒星大气中谱线的行为、确定元素丰度。现在是4米多目标光谱望远镜(4MOST)永久科学成员，负责河内恒星参数pipeline开发，为揭示银河系形成演化历史提供更多的信息。