«Atmospheres of temperate planets and their observability using RISTRETTO and HIRES»

Source et détails sur le financement : 4 years funding ; ~48,000 CHF/year gross salary

Mots clés : exoplanet, climate model, high-resolution spectrograph, habitability

Compétences nécessaires : MSc degree in astronomy, astrophysics or related fields. The successful applicant will be immersed in a team work environment, therefore good team playing abilities and focus will be praised soft skills.

Sujet scientifique de la thèse : Applications are invited for a research assistant (PhD student) position at the University of Geneva (Geneva Observatory) working with Prof. Christophe Lovis and Prof. Emeline Bolmont on the modeling and future characterization of temperate/hot rocky planets around low-mass stars. The successful applicant is expected to work with a global climate model to study the effect of a variety of different parameters on the atmosphere and habitability of planets. The work will involve to run extensive simulations with the 3D Global Climate Model LMD-Generic and analyze the resulting outputs. The LMD-Generic (http://www-planets.lmd.jussieu.fr) is a generic version of the Earth global climate model used to study global warming. The student will work in close collaboration with Dr. Martin Turbet from the LMD. The student will also work on the implementation of new physical processes in the model, in particular the heat flux due to tidal dissipation inside planets and the impact of volcanic gases and aerosols on the atmosphere. The student will also link the outputs of the simulations of atmospheres to observables for future instruments, in which Geneva has a leading role: RISTRETTO (VLT) and HIRES (ELT). A particular emphasis will be put on high-resolution spectroscopic diagnostics in reflected light. This PhD will therefore bring an important modeling effort for the preparation of these future atmospheric characterization instruments.

Informations complémentaires : https://eas.unige.ch/jobs.jsp?type=phd&id=1428