technische universität dortmund

Fakultät für Elektrotechnik und Informationstechnik

Einladung zu einem Promotionsvortrag

Vortragender:	M.Sc. Marcel Hess
Thema:	Statistical Methods for Compositional and Photometric Analysis of the Lunar Surface
Inhalt:	How light is reflected off the lunar surface depends on the physical and compositional properties of the regolith. The thesis uses reflectance modeling and Bayesian inference for the inversion to obtain the photometric and compositional properties concerning mineralogy, and space weathering, but also for the hydration of the lunar surface. Firstly, the spectral characteristics of lunar swirls are investigated in the near-infrared to compare the contributions of space weathering and compaction on these bright albedo features. Secondly, the almost global distribution and diurnal variation of hydroxyl are evaluated depending on the composition. Thirdly, a Bayesian unmixing framework is derived and verified. This framework is then used to derive global maps of the major lunar minerals. Finally, the photometric properties of the regolith at the Reiner Gamma swirl and at the Chang'e 5 landing site are characterized with Bayesian inference to assess the physical constitution like compaction and roughness of the regolith.
Termin:	15.04.2024, 10:00 Uhr
Ort:	https://tu-dortmund.zoom.us/j/98667015669?pwd=V3RmNkY2UnNCU1BsSmNib1pXWElQdz09
Vortragsleitung:	Professor Dr. rer. nat. Christian Wöhler

bei Rückfragen wenden Sie sich an das
Dekanat für Elektrotechnik und Informationstechnik
dekanat.etit@tu-dortmund.de