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Title: Observational implications of laser-induced Raman scattering above Cerro Paranal

Abstract:

In this talk, I will present the first detection of laser-induced Raman (in addition to Rayleigh and Mie) scattering above Cerro Paranal with the MUSE integral field unit. This additional source of (non-elastic) scattering for the photons from the 4LGSF lasers (and the PARLA laser too) gives rise to a very specific set of emission lines that can contaminate certain observations at visible wavelengths. Beyond the physical description of the phenomena and the characterisation of its spectral signature, I will discuss some of the direct consequences of this effect for operations.