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AO data analysis challenge

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Adaptive Optics correction retrieves PSF temporally and spatially variating following the optical turbulence dynamics. The stability of the energy ratio core/wings affect the photometric precision, and the spatial variation of the shape of the PSF core makes complicated the morphology analysis of quasi point-like sources. Time averaging mitigates the temporal variation effect while spatial variation needs proper characterization. Current AO/MCAO facilities (e.g., LUCI-FLAO, SPHERE, GEMS) routinely produce valuable high-resolution data, which exploitation represents a challenge for existing data reduction tools. Today we will focus on the challenges and on the solutions currently adopted to mitigate the complexities, looking forward to PSF-reconstruction and PSF-fitting techniques.

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