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Extending marginalized blind deconvolution of AO corrected astronomical images with MCMC methods

mercredi 23 mars 2022 11:00 (10 minutes)

Adaptive optics (AO) corrected image restoration is particularly difficult, suffering from the lack of knowledge on the point spread function (PSF) in addition to usual difficulties. An efficient approach is to marginalize the object out of the problem and to estimate the PSF and (object and noise) hyperparameters only, before deconvolving the object using these estimations. Recent works have applied this marginal blind deconvolution method, combined to a parametric model of the PSF, to a series of AO corrected astronomical and satellite images. Our work extends it thanks to Markov chain Monte Carlo (MCMC) methods to include error bars on the estimated PSF parameters as well as on object and noise hyperparameters. Finally, we present the obtained results on simulated and experimental astronomical images.

Field

Not in the above

Day constaints

Not available on Friday, 25th

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Classification de Session: Talk

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