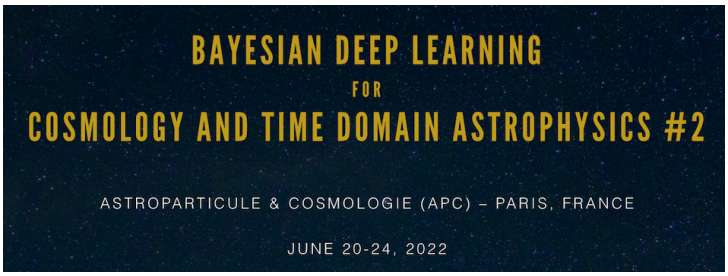


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# Artificial Intelligence: a game-changer for large scale structure cosmology

*jeudi 23 juin 2022 09:00 (1 heure)*

In large scale structure cosmology, the information about the cosmological parameters governing the evolution of the universe is contained in the complex and rich structure of dark matter density field.
To date, this information was probed using simple human-designed statistics, such as the 2-pt functions, which are not guaranteed or expected to capture the full information content of the LSS maps.
Recently, multiple AI-based methods have been proposed to work with this highly complex data: both for parameter inference and to aid the generation of simulations.
In this talk I will review the progress of practical appliacations of AI to the LSS inference and modelling and highlight with the focus on areas in which AI can be a “game-changer”.
I will discuss the recent applications of AI to weak lensing analysis, probe combination, mass map emulators and the creation multi-field simulations.
I will present upcoming simulation sets available to the community that can be used to further advance these techniques.

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