Contribution ID: 308

Type: Parallel talk

Cosmology with Vision Transformer

Tuesday 15 October 2024 17:45 (15 minutes)

One of the recently proposed machine learning techniques in image processing that surpasses (in some cases) the accuracy of a traditional Convolutional Neural network (CNN) is the Vision Transformer. In this technique, one divides an entire image into different patches and then uses a Transformer-like algorithm to understand different features of the image. For the first time, we use this novel technique on the CAMELS data suit (consisting of 1000 hydrodynamical simulations) to constrain different cosmological and astrophysical parameters. In this talk, I will discuss the results of this study and compare these results with the traditional CNN method.

Track type

Cosmology

Author: Dr CHATTERJEE, Atrideb (Inter-University Centre for Astronomy and Astrophysics)

Co-author: Dr VILLAESCUSA-NAVARRO, Francisco

Presenter: Dr CHATTERJEE, Atrideb (Inter-University Centre for Astronomy and Astrophysics)

Session Classification: Parallel - Cosmology