



HAMLET August 19 - 21, 2024
Copenhagen, Denmark
How to Apply Machine Learning to
Experimental & Theoretical
PHYSICS

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Data challenges for black-hole image reconstruction and feature identification

Monday 19 August 2024 15:10 (25 minutes)

Black holes hold a tremendous discovery potential, and experiments such as the Event Horizon Telescope and its next generation upgrade could provide important cues about their structure. I will present a pedagogical discussion on the most relevant features in black-hole images (e.g. photon rings) and their detectability using realistic telescope arrays. I will focus on the structure of Fourier-plane data when expressed in terms of standard interferometric variables known as closure quantities, and motivate the use of machine learning to identify specific features and quantify observational uncertainties.

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