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Specifics of Surrogate Models for Particle Physics Experiments

Thursday 10 July 2025 10:30 (30 minutes)

AI development brings a revolutionary changes to our life and our society.
The practical use of AI approaches for scientific studies is slightly behind the general use.
This lag is driven by a specific requirements to the machinery imposed by scientific use.
Using AI based fast simulation surrogate models for particle physics experiments is a popular trend nowadays.
In this presentation we will discuss typical approaches to developing fast models for simulating responses of different detectors,
limitations of such AI based approaches, possible ways to overcome those limitations.
Specific issues for using AI based surrogate models in mass data production will also be addressed.

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