



# Table of contents

|                                |   |
|--------------------------------|---|
| Thursday 29 October 2026 ..... | 1 |
|--------------------------------|---|

# The 8th international conference on particle physics and astrophysics

## Thursday 29 October 2026

### Artificial Intelligence in particle physics and astrophysics: AI in particle physics experiments (09:00-11:00)

| time  | [id] title                                                                                                                            | presenter            |
|-------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 09:00 | [171] Magnetic field approximation for the SPD detector                                                                               | DMITRY, Fomenok      |
| 09:15 | [207] CEPC experiment potential for observation of rare Higgs boson decay $H \rightarrow ZZ^* \rightarrow 4\nu$ at $\sqrt{s}=240$ GeV | KORPACHEV, Sergey    |
| 09:30 | [217] Application of Machine Learning Methods for Event Reconstruction in the SPD Range System                                        | ■■■■■■■■, ■■■■■■■■   |
| 09:45 | [218] Physics-Guided Evaluation and Regularization of Diffusion Models for Calorimeter Simulation                                     | DOROSH, Alexandr     |
| 10:00 | [223] Graph Attention Neural Network for Clustering Particle Tracks by Events in the SPD experiment                                   | OMELIANCHUK, Savelii |
| 10:15 | [249] Differentiable reconstruction of the AdS/QCD Warp Factor                                                                        | KOMLEVA, Anna        |
| 10:30 | [309] Event-Adaptive FARICH Reconstruction under Unknown Dark-Count Rates with a Track-Conditioned Transformer                        | ROGOZHIN, Platon     |
| 10:45 | [325] Deep Learning for Fast Simulation of the Microstrip GEM Detector in the BM@N Experiment                                         | BARANOV, Dmitry      |

### Artificial Intelligence in particle physics and astrophysics: AI in astrophysical experiments (16:20-18:50)

| time  | [id] title                                                                                                                                               | presenter          |
|-------|----------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 16:20 | [220] Machine learning for cosmic ray classification at the Carpet-3 experiment                                                                          | POZDNUKHOV, Nikita |
| 16:35 | [225] Reconstruction of neutrino-induced muon energy in Baikal-GVD with transformer neural networks                                                      | MATSEIKO, Albert   |
| 16:50 | [247] Forecasting the Onset Time of the Second Maximum of Proton Enhancements Using Solar-Wind Kinematics and a Quantum Regression Neural Network (RQNN) | DAVYDENKOV, Igor   |
| 17:05 | [341] Optimization of detector structure based on flow field numerical simulation with the assistance of artificial intelligence                         | WANG, Haoyu        |
| 17:20 | [351] A machine learning method based on the extraction of essential features for multimodal EAS data analysis.                                          | ■■■■■■■■, ■■■■■■■■ |
| 17:35 | [361] Noise suppression for Baikal-GVD using spectral properties of event graphs                                                                         | AVRORIN, Alexander |
| 17:50 | [384] Neural networks for data analysis in Baikal-GVD                                                                                                    | KHARUK, Ivan       |
| 18:05 | [270] Large language models in astrophysics and prospects for applying GigaChat to Baikal-GVD and TAIGA                                                  | PLAVUNOV, Ilya     |
| 18:30 | AI section award ceremony                                                                                                                                |                    |