Contribution ID: **31** Type: **Plenary**

AI assisted Track Reconstruction for CLAS12 Detector

Tracking in nuclear physics experiments is the most computationally extensive procedure. In CLAS12 detector data reconstruction tracking takes 94% of computational time. Due to high particle multiplicity a lot of time is spend on combinatorial search through track candidates.
In this work we present our use of Neural Networks to identify best track candidates based on segments information from 6 super-layers of drift chambers. The developed Neural Network achieves 96% accuracy of track identification and improves the reconstruction speed by factor of 3-6.

Consider for young scientist forum (Student or postdoc speaker)

No

Second most appropriate track (if necessary)

Architectures and techniques for real-time tracking and fast track reconstruction

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Session Classification: Recording sessions