



Contribution ID: 27

Type: **Plenary**

## Track Reconstruction on Free Streaming Data at PANDA

*Monday, April 20, 2020 8:15 PM (25 minutes)*

High event rates of up to 20 MHz and continuous detector readout makes the event filtering at PANDA a challenging task. In addition, no hardware-based event selection will be possible due to the similarities between signal and background. PANDA is among a new generation of experiments utilizing a fully software-based event filtering. Currently, detector hits are often pre-sorted into events by the hardware filter before being passed to the software-based event filter with track reconstruction and event building. Track reconstruction will play a key part in the online filtering at PANDA where it will be used together with the event building.

To ensure the quality of the track reconstruction, the existing quality assurance task has been modified to be able to cope with free streaming data. This talk will address the candidates for online track reconstruction algorithms for free streaming data based e.g. on the Cellular Automaton. The quality assurance procedure and the results from the tracking at different event rates and level of event mixing is presented.

### **Consider for young scientist forum (Student or postdoc speaker)**

Yes

### **Second most appropriate track (if necessary)**

Enhanced performance of tracking algorithms

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**Session Classification:** Recording sessions