



Contribution ID: 2

Type: **Plenary**

## **Global least squares alignment with Kalman Filter fitted tracks**

*Wednesday, April 22, 2020 2:10 PM (25 minutes)*

The Kalman Filter approach to fitting charged particle trajectories is widespread in modern complex tracking systems. At the same time, the global fit of the detector geometry using Newton-Raphson fitted tracks remains the baseline method to achieve efficient and reliable track-based alignment which is free from weak-mode biases affecting physics measurements. A brief reminder of the global least squares formalism for track-based alignment and how Kalman Filter fitted tracks can be equivalently used for the global fit as well as potential computational benefits and use of additional constraints will be reviewed.

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

No

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

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**Session Classification:** Recording sessions