



Contribution ID: 20

Type: **not specified**

## [AS] TRACS development for LGAD sensor

*Thursday 4 June 2020 10:20 (20 minutes)*

The High Luminosity of the Large Hadron Collider (HL-LHC) is scheduled to be in operation around 2027, where the instantaneous luminosity will reach up to  $7.5 \times 10^{34} \text{cm}^{-2}\text{s}^{-1}$ . To mitigate the high luminosity induced pile-up, both ATLAS and CMS has proposed to use LGAD as the key sensor for timing measurement in the irradiation region. On the other hand, radiation hardness study on detectors will help investigate the stability and radiation endurance. TRACS is a multi-threading fast simulator tool of transient currents mainly for silicon strip detectors before and after irradiation. Development on TRACS has been extended to simulate the LGAD sensor with avalanche region, and preliminary results to compare the simulation with HPK LGAD sensors will be presented.

**Authors:** XIAO, Suyu (Chinese Academy of Sciences (CN)); KIUCHI, Ryuta (Chinese Academy of Sciences (CN)); SHI, Xin (Chinese Academy of Sciences (CN))

**Presenter:** XIAO, Suyu (Chinese Academy of Sciences (CN))

**Session Classification:** Simulations