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## **Comparison between Run 2 SEU measurements and FLUKA simulations in the CERN LHC tunnel and shielded alcoves around IP1/5**

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In this paper we present a systematic benchmark between the simulated and the measured data of radiation monitors useful for Radiation to Electronics (R2E) studies at the Large Hadron Collider (LHC) at CERN. The radiation levels in the main LHC tunnel on the right side of the Interaction Point 1 (ATLAS detector) and 5 (CMS detector) are simulated using the FLUKA Monte Carlo code and compared against Single Event Effect (SEE) measurements performed with the Radiation Monitor (RadMon) system. Considering the complexity and the scale of the simulations as well as the variety of the LHC operational parameters, we find a generally good agreement between measured and simulated radiation levels, typically within a factor of 2 or better.

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### **Footnotes**

### **I have read and accept the Privacy Policy Statement**

Yes

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