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## ALICE 3

*Thursday 29 July 2021 11:15 (12 minutes)*

In parallel to the commissioning of the upgraded detector system for Run 3 and the R&D for upgrades planned for Run 4, ALICE is preparing a next-generation heavy-ion experiment for LHC Run 5. It will give us access to novel measurements of electromagnetic and hadronic probes of the QGP at very low momenta that will remain inaccessible in LHC Run 3+4, both because of detector performance and luminosity. We expect new insights from new measurements of multi-charm baryons and exotica as well as from high-precision analyses of dielectron production at very low momenta. The required detector performance shall be achieved through extensive usage of thin silicon sensors for tracking, combining the advantages of extremely low material budget, fast read-out, and high resolution. A modern particle identification system shall complement the tracking system. In combination with a silicon-based time of flight detector, a RICH and preshower detector are studied to provide high-purity measurements of dielectron pairs which probe the conditions in the QGP phase of the collision and help with the background rejection in the heavy-flavour measurements. We will present the physics prospects for heavy-ion physics in LHC Run 5 and beyond and the plans for the apparatus.

### **Collaboration / Activity**

ALICE

### **First author**

### **Email**

**Primary author:** INNOCENTI, Gian Michele

**Co-author:** COLLABORATION, ALICE

**Presenter:** INNOCENTI, Gian Michele

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