

Development of in-house plating and hybridisation technologies for pixel detectors

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Within the CERN EP R&D programme and the DRD3 collaboration, innovative and scalable hybridisation and module-integration concepts are pursued for pixel-detector applications in future colliders. Most interconnect processes require specific surface properties and topologies of the bonding pads. An in-house Electroless Nickel Gold (ENIG) plating process is therefore under development, which is performed on single-die level and can be adapted to a large range of pad geometries and bonding techniques. The hybridisation processes under study include bonding with anisotropic conductive adhesives (ACA), as well as gold-stud bonding with epoxy underfill. This contribution introduces the developed plating and hybridisation processes, and presents recent results for dedicated test structures and functional ASICs and sensors.

Type of presentation (in-person/online)

in-person presentation

Type of presentation (I. scientific results or II. project proposal)

I. Presentation on scientific results

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