

## Flip chip interconnects in pixel detectors

*Monday, November 6, 2017 3:00 PM (1 hour)*

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Abstract: This presentation gives an overview on the flip chip process of hybrid pixel detectors. The focus is set on describing the different solder bumps structures used for various detector modules. The methods of depositing under-bump metallisation and solder / polymer adhesive bumps on the wafers will be described. Moreover, different solutions are suggested for Si and compound semiconductor modules bringing also the cost related factors on the table.

In flip chip part of the presentation, different flip chip (mainstream) techniques will be introduced from die to wafer-level. There are technological challenges in flip chip bonding of thin ASICs as they bow as a function of the temperature. There are several strategies in flip chip bonding of thin pixel modules, and some of these will be introduced.