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# Alignment strategy for the CMS tracker

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The full-silicon tracker of the CMS experiment with its 15148 strip and 1440 pixel modules is of an unprecedented size. For optimal track-parameter resolution, the position and orientation of its modules need to be determined with a precision of a few micrometer.

Starting from the inclusion of survey measurements, the use of a hardware alignment system, and track based alignment, this talk details the strategy that is used to align the CMS tracker and reports recent results. These include the usage of novel algorithms that allow to solve the optimization problem with the required accuracy in manageable time, the selection of special data samples to constrain weak modes, and the overall layout of the software alignment framework, database model and data flow for alignment.

## Submitted on behalf of Collaboration (ex, BaBar, ATLAS)

CMS Tracker

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