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FCC software strategies and challenges

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Computing plays an increasingly central role in modern HEP-experiments. Current reconstruction software solutions in particular will not scale to the demanding environment of future high-luminosity colliders and threaten to limit physics performance. This talk outlines the efforts to address this issue in the common software framework FCCSW of the Future Circular Collider design studies. FCCSW is built to account for changing hardware technologies and the complex software ecosystem from the beginning, using and adapting existing open-sourced HEP software when possible. Fast and full simulation approaches are integrated in the framework in a manner that is flexible in the treatment of pileup and beam background. Ideas and solutions that are of interest beyond FCC, such as PODIO, a new event data model library using plain old data structures, are highlighted.

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