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Using the reconstruction software, ORCA, in the CMS datachallenge

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We report on the software for Object-oriented Reconstruction for CMS Analysis, ORCA. It is based on the Coherent Object-oriented Base for Reconstruction, Analysis and simulation (COBRA) and used for digitization and reconstruction of simulated Monte-Carlo events as well as testbeam data.

For the 2004 data challenge the functionality of the software has been extended to store collections of reconstructed objects (DST) as well as the previously storable quantities (Digis) in multiple, parallel streams.

We describe the structure of the DST, the way to ensure and store the configuration of reconstruction algorithms that fill the collections of reconstructed objects as well as the relations between them. Also the handling of multiple streams to store parts of selected events is discussed. The experience from the implementation used early 2004 and the modifications for future optimization of reconstruction and analysis are presented.

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