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MarlinMT - parallelising the Marlin framework

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Marlin is the event processing framework of the iLCSoft ecosystem. Originally developed for the ILC more than 15 years ago, it is now widely used, e.g. by CLICdp, CEPC and many test beam projects such as Calice, LCTPC and EU-Telescope. While Marlin is lightweight and flexible it was originally designed for sequential processing only. With MarlinMT we now evolved Marlin for parallel processing of events on multi-core architectures based on multi-threading. We report on the necessary developments and issues encountered, within Marlin as well as with the underlying LCIO EDM. A focus will be put on the new parallel event processing (PEP) scheduler. We conclude with first performance estimates, such as application speedup and memory profiling, based on parts of the ILD reconstruction chain that have been ported to MarlinMT.

Consider for promotion

No

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Session Classification: Track 5 – Software Development

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