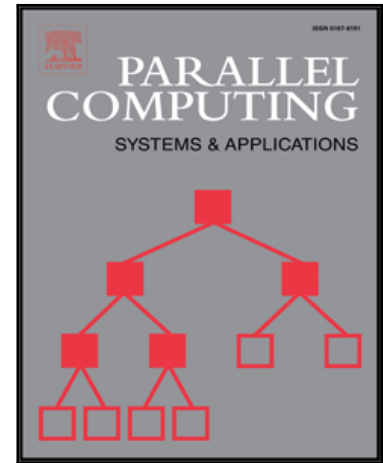


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Performance Evaluation of the Three-Point Angular Correlation Function

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Highlights

- This paper is a revised version of a previously published article at the AsHES (Accelerators and Hybrid Exascale Systems) 2017 workshop titled Time and Energy to Solution Evaluation for the Three-Point Angular Correlation Function. We have performed additional tests and collected new data for more platforms compared to that other contribution. In particular, we have benchmarked the Intel Xeon platform in more detail and added results for the Cavium ThunderX chip, that we did not previously have. We have also extended the description of the problem so that readers can have a better understanding of the challenges that the target function poses. Having access to the Cavium ThunderX processor with the Cray compiler offers valuable insights into upcoming platforms. Recently, at the Supercomputing 2017 conference, it could be seen how the interest on ARM platforms is growing and how it can be a viable alternative to other approaches for production systems.
- Overall, we have demonstrated how Nvidia P100 GPU is the best platform for our tests. We did not have access to the new Volta architecture for this research, which should further improve the results. However, the paper also shows some compelling alternatives from both Intel and Cavium that simplify the efforts that developers should carry out when porting their codes to these platforms and still achieve good performance.

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