Evaluating DOE HPC Kernels for Processing in Memory

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ABSTRACT

Abstract goes here...

CCS CONCEPTS

• **Computer systems organization** → *Processors and memory architectures*;

KEYWORDS

Processing in Memory, High Performance Computing

1 INTRODUCTION

- Memory bottleneck problem
- Why PIM and how it helps
- How HPC applications can be accelerated

2 BACKGROUND

- PIM background
- Different types of PIM
- Which type of PIM can be beneficial for HPC

3 WORKLOAD CHARECTERIZATION OF DOE HPC APPLICATIONS

- Roofline model
- Identifying functions that are memory intensive

4 EXPERIMENTAL ENVIRONMENT

In this section we describe the target hardware platform, simulator infrastructure, and benchmarks used to carry out the experiments.

5 EVALUATION

- Performance gain (IPC)
- LFMR, MPKI
- Energy

6 RELATED WORK

Related Works

7 CONCLUSIONS

Conclusions go here

8 ACKNOWLEDGMENT