Applications of GPUs to Online Track Reconstruction in HEP Experiments

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Abstract—The abstract goes here.

Index Terms—IEEEtran, journal, LATEX, paper, template.

I. INTRODUCTION

INTRODUCTION

II. EXPERIMENTAL SETUP AND DATA FLOW

III. LATENCY DISTRIBUTIONS

Here we should describe in more detail the features we found in the latency distributions (tails, multiple peaks, etc...)

IV. LATENCY MEASUREMENTS

A. Data transfer

B. Data copy to and from the GPU

C. Data processing on the GPU

D. Data processing on multiple GPUs in parallel

On quong setup, we would like to reproduce a more realistic system, where input data are splitted among different GPUs and processed in parallel. We can first evaluate the performance using the two GPUs inside each node and then use multiple nodes.

V. FUTURE PERSPECTIVES

A. Applications to HEP experiments online systems

CMS/ATLAS and LHCb

B. Applications to neutrino experiments

VI. CONCLUSION

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