



Contribution ID: 19

Type: **Poster plus Minioral**

Design and Performance Optimization of Readout over PCIe for CDEX-100

CDEX project which aims at search of Dark Matter, will soon come to CDEX-100 period in about 2 years. This work has designed an readout system (Readout over PCIe, RoPe) for CDEX-100. The whole system is built on Xilinx Zynq 7Z100 SoC and support 80Gbps of input bandwidth based on 2 QSFP+ optical link and 40Gbps of output bandwidth based on PCIe Gen2 x8 link.

Considering RoPe's condition, we have summarized a clear procedure to calculate theoretical speed of the PCIe, and through our optimization, achieved an amazing 3.55Gb/s result.

Minioral

Yes

IEEE Member

No

Are you a student?

Yes

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Session Classification: Mini Oral - III