Contribution ID: **3** Type: **not specified**

Towards Quantum Compression in High-Energy Physics Data

Friday, December 3, 2021 10:00 AM (20 minutes)

Currently, the vast amount of data presents a challenge for high-energy physics experiments, and most data most be discarded, keeping only data which passes templated triggers. Since we do not know the form new physics will take, these templated triggers may be excluding interesting events. This problem will only be exacerbated in the future as the size, intensity, and complexity of the apparatus increase. The advent of quantum computing, and specifically quantum random access memory (QRAM), will allow experiments to store exponential amounts of data. In this contribution, I will outline current efforts to efficiently implement a QRAM protocol capable of storing 3^n_{qbit} bits of classical information in qubit spin correlations

Primary author: LAZAR, Jeffrey (University of Wisconsin)

Presenter: LAZAR, Jeffrey (University of Wisconsin)

Session Classification: Contributed Talk Session