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Edge computing for science: considerations for a heterogeneous world

Wednesday 16 June 2021 17:40 (30 minutes)

https://desy.zoom.us/j/91209001554

We will discuss the role of heterogeneous hardware from the sensor to the data center as it can be used for physics informed data compression. To uncover shared needs across scientific domains we will use two concrete examples, one from attoclock molecular spectroscopy and the other from magnetic confinement plasma fusion. These domain specific algorithms a) are more easily optimized when composed of patterns of hardware targeted operators, b) likely have many routes that optimize differently for different palettes of acceleration hardware, and c) require parallel and dynamic provenance records that not only ensure scientific integrity but also lay the foundation for a data and algorithm marketplace wherein value is earned by use and influence rather than an ephemeral impact factor.

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