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Machine learning for an XFEL accelerator

Wednesday, 13 November 2019 14:00 (50 minutes)

X-ray Free Electron Lasers (XFELs) are among the most complex modern accelerator facilities. With large parameter spaces, highly non-linear behavior, and large data rates, there are expanding opportunities to apply machine learning to XFEL operation and design. In this talk I will give an overview of the challenges, and will cover several applications of machine learning, including online optimization, surrogate modeling, computer vision, and multiplex data acquisition

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