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## The AWAKE Run 2 Facility

*Wednesday, September 18, 2019 7:00 PM (1 hour)*

The AWAKE Run 1 experiment finished successfully its proof-of-concept program in 2018 by demonstrating the seeded self-modulation of a long proton bunch in plasma and accelerating externally injected electrons to GeV energies in 10m plasma.

AWAKE is now preparing for Run 2 planned to start in 2021 with the aim to achieve high-charge bunches of electrons accelerated to high energy, about 10 GeV, while maintaining beam quality through the plasma and showing that the process is scalable. By the end of Run 2 AWAKE should be in the position to use that scheme for first particle physics applications. To achieve this goal, two plasma sources will be installed, the first one used to self-modulate the proton beam and the second one to accelerate a high intensity, high energy electron bunch coming from a new electron source and beam line system. In addition new plasma and new beam diagnostics will be installed.

An overview of the AWAKE Run 2 experiment will be given. The technical challenges of this new facility as well as the proposed schedule will be shown.

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**Track Classification:** WG1 - Electron beams from plasmas