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Status of the Electron source and transfer lines for the AWAKE Experiment at CERN

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The AWAKE collaboration prepares a proton driven plasma wakefield acceleration experiment using the SPS beam at CERN. A long proton bunch extracted from the SPS interacts with a high power laser and a 10 m long rubidium vapour plasma cell to create strong wakefields allowing sustained electron acceleration. The electron beam to probe these wakefields is created by an electron accelerator consisting of an RF-gun and a booster structure. This electron source should provide beams with intensities between 0.1 to 1 nC, bunch lengths between 0.3 and 3 ps and an emittance of the order of 2 mm mrad. The booster structure should accelerates the electron beam to 16 MeV. The electron line includes a series of diagnostics (pepper pot, BPMs, spectrometer, faraday cup and BTVs) and an optical transfer line merge the electron beam with the proton beam on the same axis. The installation of the electron line started in early 2017 and the commissioning will take place at the end 2017. The layout of the electron accelerator and transfer line, the diagnostics, the installations status and the planning for the commissioning will be presented.

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