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## Design of an Electro-Optic Bunch Length Monitor for the CERN-CTF3 probe beam

One of the most promising devices to provide accurate measurements of longitudinal beam profile for CLIC is based on electro-optical techniques. A new bunch length monitor, based on electro-optic spectral decoding (EOSD), is currently being designed for the CLIC Test Facility 3 at CERN. EOSD encodes the coulomb field profile of a bunch onto a time-wavelength correlated optical probe, with the temporal profile of the bunch consequently read-out through the wavelength spectrum of the optical probe. The detector will be installed on Califes, the CTF3 probe beam, which typically provides bunches with a charge of 0.2nC and a bunch length of 1ps r.m.s. Three design schemes using different lasers are investigated and evaluated with the expected performance of the monitor also presented.

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