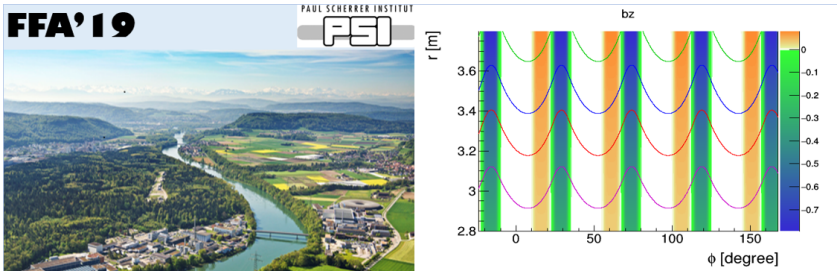

Contribution ID: **4** Type: **not specified**

Muon Accumulator Optics for a Muon Beam produced from positron-electron annihilation

Thursday 21 November 2019 14:45 (45 minutes)

LEMMA is studying the possibility of a future muon collider where muons are produced from positrons impinging on a target. Unlike conventional muon sources, muons are produced with a very small emittance, however, a small population is produced due to the small cross section of the e+e- annihilation into muons. In order to increase the muon beam population, we are currently designing a muon accumulator ring with small circumference and large energy acceptance.
The current optics has been studied using MAD, and MAD-X PTC, achieving +/-10\% energy acceptance in less than 150˜m of circumference. We are considering the possibility of a FFA lattice design to achieve at least +/-20\% energy acceptance, with smaller circumference and small momentum compaction factor.

Author: BLANCO-GARCIA, Oscar Roberto (LNF/INFN)

Co-authors: Mr CIARMA, Andrea (LNF INFN); Mrs BOSCOLO, Manuela (LNF INFN); Mrs ANTONELLI, Mario (INFN LNF); Mr RAIMONDI, Pantaleo (ESRF)

Presenter: BLANCO-GARCIA, Oscar Roberto (LNF/INFN)

Session Classification: Beam Dynamics