Studies on muon induction acceleration and an objective lens design for transmission muon microscope

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Muon acceleration will be accomplished by a set of induction modules, where each increases the energy of the muon beam by an increment of up to 30 kilovolts. The modules are arranged in a linear way resulting in total accelerating voltage of 300 kilovolts. Acceleration time in the linac is about hundred nanoseconds. Induction field calculation is based on an electrostatic approximation. Beam dynamics in the induction accelerator is investigated and final beam focusing on specimen is realized by designing a pole piece lens.