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## GENERATION AND MATCHING SUB-FS ELECTRON BUNCH FOR LASER-DRIVEN PLASMA ACCELERATION AT SINBAD

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Electron bunches with sub-fs duration are required in order to achieve high quality beams by laser-driven plasma acceleration with external injection. SINBAD (Short Innovative Bunches and Accelerators at DESY) is a proposed dedicated accelerator research and development facility at DESY. One of the baseline experiments at SINBAD is ARES (Accelerator Research Experiment at SINBAD), which will provide ultra-short electron bunches of over 100 MeV. We present simulation studies of a few pC, sub-fs bunch generation at ARES with a magnetic bunch compressor by using two different codes (IMPACT-T and CSRTrack). Since the sub-fs will elongate quickly after compression, matching the ultra-short bunch into the plasma cell in a short distance is also vital important. Preliminary design of the matching beamline and beam dynamic simulation are also presented in this paper.

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