24. Title: Construction and performance of the magnetic bunch compressor for the THz facility at Chiang Mai University

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Abstract: The Plasma and Beam Physics Research Facility at Chiang Mai University has established a THz facility to focus on the study of ultra-short electron pulses. Short electron bunches can be generated from a system that consists of a radio-frequency (RF) gun with a thermionic cathode, an alpha magnet as a magnetic bunch compressor, and a linear accelerator as a post-acceleration section. The alpha magnet is a conventional and simple instrument for low-energy electron bunch compression. With the alpha magnet constructed in-house, several hundred femtosecond electron bunches for THz radiation production can be generated from the thermionic RF gun. The construction and performance of the alpha magnet, as well as some experimental results, are presented in this paper.