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High Precision Field Receiver for RF Controls at Attosecond Level

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Up to now the sensitivity of the field detectors for the accelerating cavitites are limited by the LLRF system and actuators to about 3fs for a bandwidth of 1 MHz. The main limitation is using digital field detection schemes, which involves front-ends, LO-generation and analog to digital converters. Within this poster the field detection method based on a suppressed carrier signal is presented. In comparison to the well-known results measured by the LLRF system, most recent results of the measurement technique will be shown.

Summary

This poster shows the project status of the implementation of a field receiver system based on carrier suppression. It gives an overview of the latest results, potential problems and the next steps for an integrated version of the detection.

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