

## **SP7: Results of heterodyne mixing of the emitted electric field of synchrotron radiation in the THz-regime**

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Using heterodyne spectroscopy we observe the electric field of synchrotron radiation in the THz-Regime. Our measurements of the emitted coherent synchrotron radiation at 270 GHz reveal the discrete frequency harmonics around the 100'000 revolution harmonic of ANKA. We present the effects of the filling pattern structure in multi-bunch mode on the beam spectrum as well as measurements of the synchrotron frequency.

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