

Ultra-high resolution & sensitivity electron spectrometer

Next-generation electron spectrometer, which simultaneously satisfies the trade-off between energy resolution and sensitivity while keeping the instrument compact.

Overview

Electron spectroscopy is a method to study the electronic structure of matter by measuring the energy distribution of emitted electrons due to ionization caused by irradiation of energy ray such as a photon and an electron beam. Various types of electron spectrometers, such as time-of-flight and electrostatic analyzers, have been developed, depending on the electron energy range to be covered. Nevertheless, one may desire to have a next-generation spectrometer.

This technology is based on a completely new principle, which enables one to have an ultra-high energy resolution that has never been achieved. Its application is very wide, since it can be employed for any energy electrons while providing high sensitivity and the ability to measure the angular distribution.

Product Application

Electron spectroscopy in general, involving time-resolved measurement with a pump-and-probe scheme.

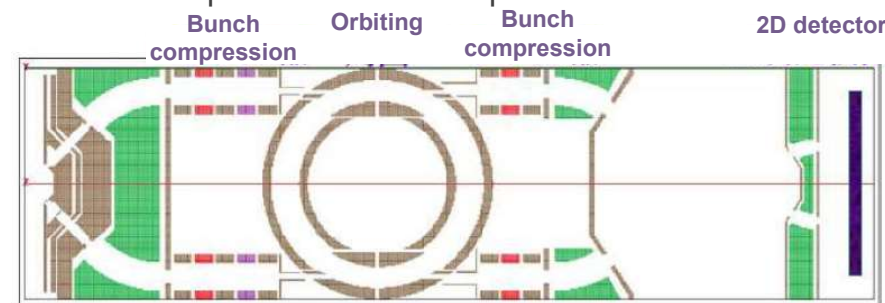
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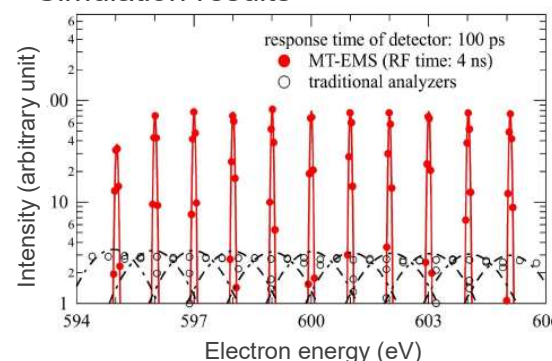


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A schematic example of the electron spectrometer



Simulation results



This technology (red) gives about 30 times higher energy resolution ($E/\Delta E \approx 9000$), compared with an existing electrostatic analyzer (black).

A higher energy resolution is feasible on demand.

Contact