Synchrotron Applications

TCSPC devices (such as PicoHarp 300) are also used to measure the temporal distribution of sychrotron radiation that corresponds to the temporal distribution of the electron beam that generate it and thus the filling pattern. We measure the temporal distribution of the radiation by measuring the arrival time of a photon to the laboratory with respect to a trigger given by the machine timing. So in this optics we are certainly measuring the time of flight of photons.

Software to integrate the PicoHarp 300 into the Tango Control Software used at the ALBA Synchrotron is being developed.

The development has been in split into smaller parts:

- A cython library to access the original's manufacturer library from python and in a pythonic way,
- An agent in the Tango distributed control system that manage the instrument,
- A Taurus GUI with access to the instrument from the control system

There is a development now for another agent in the DCS to process the histogram given by the PicoHarp300 instrument to have the distribution mention before.

Please check http://www.picoquant.com/applications/category/metrology/bunch-purity-measurements for other Synchrotron-related applications.

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