

## **Characterization of MPPC coupled organic scintillator for RFP SXR spectra detection.**

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The detailed characterization of electron distribution function in RFPs is crucial in order to understand energy transfer between particle and magnetic field and to better understand the dynamo mechanism. SXR emission spectra is in principle able to return line-integrated informations on the electron energy distribution with a time resolution high enough (ms order) to discriminate different phases between Dynamo Reconnection Events (DRE); in order to do so, SXR detectors have to be operated in Pulse Height Analysis mode.

This work present a characterization of organic scintillators coupled to MPPC (Multi Pixel Photon Counters) in terms of noise, energy cutoff, time response and recovery and linearity in an energy range of 1-10 keV. The scintillators (Scionix EL256) are manufactured in 3x3x50 mm rods with reflective coating, and they are coupled on the small side to a 1x1 and to a 3x3 mm Hamamatsu MPPC detector. The expected performances in the measurement of RFP plasma spectra in different plasma conditions is briefly discussed.