

Recent ion source related research and development work at JYFL

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During the recent years the JYFL ion source group has actively performed time resolved photon emission experiments in order to study the breakdown process of ECR heated plasma. The first experiments were carried out by using Ge-detectors of the Accelerator Laboratory and later by using CdTe-detectors for lower energies (about 2 keV –300 keV). In order to cover the entire energy range of photons emitted from the ion source plasma, the JYFL ion source group initiated the program to study the low energy photon emission with the aid of photon spectroscopy. The first experiments have been performed with the light ion sources and some very interesting results have been received. The group have also studied the parameters affecting the beam properties. This work includes the frequency tuning and beam compensation experiments. The development work for the metal ion beams have been done in order to further improve the the technology of induction ovens and sputtering. In this meeting the results of our work and some future prospects will be presented.

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