E1-18 Permormance of a new two-way ion production facility constructed for a plasma desorption mass spectrometer

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Construction and the performance of a new two-way ion production facility for a newly constructed plasma desorption mass spectrometer at the Dept. of Physics, University of Colombo are presented.

Main parts of the mass spectrometer, namely the sample block, the acceleration block and the sample holder have been designed and constructed at the departmental workshop. This assembly mounted in the vacuum chamber of the mass spectrometer is capable of bombarding the sample both from the front side and the back side of the sample. First positive ion mass spectra obtained with the new construction using a CsBr sample show that the mass spectra are qualitatively similar under both modes of bombardment. The mass spectra themselves are in good quality demonstrating that the new construction is successful.

The new construction enables the user to prepare samples either on a thin metal foil or on a thick backing such as silicon pieces. The latter choice is not currently available with the existing time-of-flight mass spectrometer at the Dept. of Physics, University of Colombo.

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