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Development of a multi-anode ionization chamber HIROKI MAKINO, Department of Physics, Faculity of Sience, Kyushu University, TSUNEYASU MORIKAWA, TETSUO NORO, TOYOKAZU MAEDA, Department of Physics, Faculty of Science, Kyushu University — A multi-anode ionization chamber with a Frisch grid has been developed. An immediate purpose is the use in accelerator mass spectrometry (AMS), but the system will also be applied to measurements in heavy-ion nuclear physics. In order to identify the incident heavy ions, the anode is divided into 16 sections so that the ionization distribution along the ion trajectory (Bragg curve) can be analyzed. Layout of the electrodes, for field shaping, has been determined based on calculations by using a computer code, Poisson-Superfish. A good discrimination of ^{36}Cl ions from background ^{36}S ions has been shown by the Monte Carlo simulation. For the signal readout, an originally designed charge-sensitive preamplifier was newly made by using conventional operational amplifiers so as to integrate the ionization charge and interface the shaped signal to the electronic modules of existing data acquisition system. These developments are still in progress. In the meeting, the overall performance of the ionization-chamber system investigated by using accelerated heavy ion beams will be presented.

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