

The invention relates to devices used in atomic physics in processes of research of interaction electron and atoms having singly charged ions which characterized with a low resiliency of saturated steam. The device comprises a reservoir with a sample material, an ionization chamber, an ionizer and a system for heating constructive elements. The device provides obtaining value-stable and time-stable beam of positive ions of chemically aggressive metals at high working temperature, and also metals which are characterized with a low resiliency of saturated steam. It may be obtained at the expense of use of the ionizer in the form of spherical surface, use of insulation elements and an output diaphragm made as a cut cone.