

Abstract Submitted
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Mass spectrometry of security relevant substances via soft photo ionization using vacuum ultraviolet light sources¹ ANDREAS ULRICH, TU-Muenchen, Physik Department E12, RALF ZIMMERMANN, Universitaet Rostock, Helmholtz Zentrum Muenchen, JOCHEN WIESER, Optimare Analytik GmbH & Co Kg — Mass spectrometry as a sensitive and selective method for chemical diagnostics is used for detecting security relevant substances such as explosives and illicit drugs. A novel concept of soft single photon ionization with innovative excimer light sources, emitting in the vacuum ultraviolet, is used in the spectrometer's (MS) ion source. Low energy electron beams (LEEB) are used to induce the excimer emission of argon and krypton excimer molecules which emit around 127 and 150 nm, respectively. The VUV light from the brilliant light source is focused into the ion source of an ion trap MS. Combination of the essentially fragment-free ionization method and a MS/MS technique leads to very sensitive and highly selective detection of the relevant substances. The technology of the collaborative research project which includes also special endoscopic sampling techniques will be described, with a focus on the LEEB light and plasma sources.

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