## Abstract Submitted for the GEC10 Meeting of The American Physical Society

## VUV-

Emission from an Electron-Beam-Sustained Radiofrequency Discharge¹ THOMAS DANDL, THOMAS HEINDL, REINER KRUECKEN, TU-Muenchen, Physik Department E12, JOCHEN WIESER, Optimare Analytik GmbH & Co Kg, ANDREAS ULRICH, TU-Muenchen, Physik Department E12 — Electron beams with a low particle energy of 12 keV are coupled into dense gases using extremely thin (300nm) silicon nitride entrance-foils [1]. This allows a compact, table-top setup avoiding the hard x-rays. Pre-ionization caused by the electrons is used to start an additional radiofrequency (rf) discharge in the dense gas. The optical emission from such an electron beam sustained discharge in noble gases is dominated by the so-called second excimer continuum in the vacuum-ultraviolet wavelength range [2]. Modifications of the VUV emission spectra which can be observed in the rf-discharge will be presented for the case of argon and krypton. The appearance of a broad-band continuum in the visible spectral range was also observed. Systematic studies and preliminary interpretations of the observed effects as well as potential applications of the setup for VUV light sources will be described.

- [1] A. Ulrich et al., Eur. Phys. J. Appl. Phys. 47, 22815 (2009)
- [2] A. Morozov et al., J. Appl. Phys. **103** (2008) 103301

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