

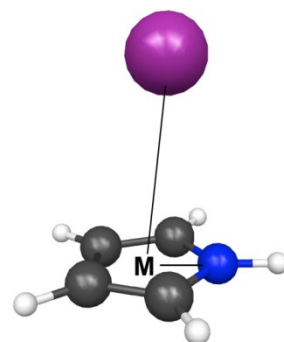
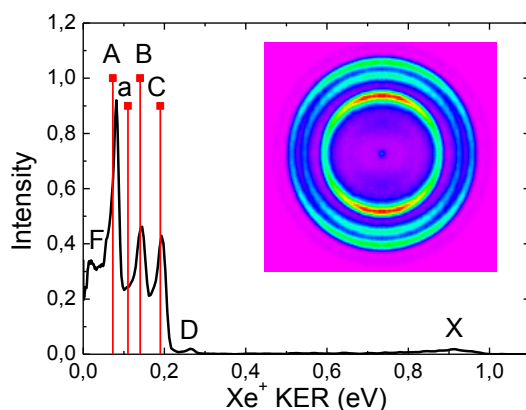
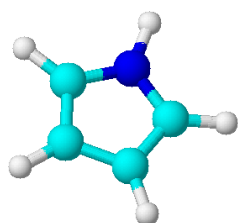
18th April 2013 – 10:00 a.m.
CFEL-bldg. 99, seminar room I and II (EG.076/078)

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Slice imaging and applications to photofragmentation of molecules and clusters and reactive scattering

Since the introduction of Velocity Map Imaging¹, the high resolution analog of Ion Imaging², its popularity has grown to the point where potentially it has surpassed the traditional time-of-flight analysis³ as the method of choice for analyzing velocity and state distributions of electrons, atoms and molecules. Slice Imaging^{4,5,6} is a variant of velocity map imaging, with the added advantage that it eliminates the need for cylindrical symmetry and noisy mathematical transformations necessary to extract 3-D information for 2-D images. Slice imaging allows for direct measurement of slice through the 3D distribution. In this talk I will present applications of this method to the study of the photofragmentation of small molecules (HCl, HBR, ICl), larger molecules such as pyrrole and clusters such as (ICl)_MXe_N, (CH₃)_MXe_N.



¹ A. T. J. B. Eppink and D. H. Parker, *Rev. Sci. Instrum.* **68**, 3477 (1997)

² D. W. Chandler and P. L. Houston, *J. Chem. Phys.* **87**, 1445 (1987)

³ W. C. Wiley and I. H. McLaren, *Rev. Sci. Instrum.* **26**, 1150 (1955)

⁴ C. R. Gebhardt, T. P. Rakitzis, P. C. Samartzis, V. Ladopoulos, and T. N. Kitsopoulos, *Rev. Sci. Instrum.* **72**, 3848 (2001)

⁵ J. J. Lin, J. Zhou, W. Shiu, and K. Liu, *Rev. Sci. Instrum.* **74**, 2495 (2003)

⁶ D. Townsend, M. P. Minitti, and A. G. Suits, *Rev. Sci. Instrum.* **74**, 2530 (2003).