

First results of radical research at the attolab user facility

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Radicals are intermediates in combustion processes and major players in the formation of polycyclic aromatic hydrocarbons (PAHs) and soot [1]. During combustion, however, the molecules are often excited by thermal energy into excited electronic states. Therefore knowledge of the excited-state dynamics of the involved species is indispensable to fully understand this process and to simulate it correctly.

In the context of a laserlab run at the newly built attolab laser facility we examined several (bi)-radicals using femtosecond time-resolved photoelectron and time-of-flight mass spectroscopy. The examined open-shell species were produced from suitable precursors using the flash pyrolysis method [2]. In this talk the first preliminary results of these radicals will be presented.

[1] I. Glassman, R. A. Yetter, *Combustion, Elsevier*, 4th edn **2008**

[2] D.W. Kohn, H. Clauberg, P. Chen, *Rev. Sci. Instr.*, 63, **1992**