

Abstract Submitted  
for the DAMOP07 Meeting of  
The American Physical Society

**Dissociative Fragmentation of Polycyclic Aromatic Hydrocarbons with 532 nm Laser Radiation** CARMEN CISNEROS, Universidad Nacional Autonoma de Mexico, JUAN CARLOS POVEDA, Universidad Nacional Autonoma de Mexico, MANUEL COMBES, ALFONSO GUERRERO, IGNACIO ALVAREZ, Universidad Nacional Autonoma de Mexico — A pulsed supersonic jet of polycyclic aromatic hydrocarbons mixed with noble gases was produced by adiabatic expansion in a high vacuum chamber ( $2 \times 10^{-8}$  torr). The PAH's were heated in order to obtain their vapors. The pulsed mixtures interacted at  $90^\circ$  degrees with the 532 nm laser radiation from second harmonic of a Nd:YAG laser at intensities of  $10^{11}$ - $10^{12}$   $\text{W}\cdot\text{cm}^{-2}$ . The produced ions from photodissociation-photoionization processes were extracted, accelerated at 3.5 keV and analyzed in a time of flight mass spectrometer. In previous work (1) with 355 nm, only low mass ions were detected. At the present wave length, single charged ions were observed with compositional arrangements of the type  $\text{C}_n\text{H}_m^{+1}$  with  $3 < n < 9$  and  $m$  in the range of 1 to  $n$ , with some exceptions when protonation occurs. Double charged ions were observed and they are more abundant than in the case of the 355 nm photodissociation. The carrier gas effect was also analyzed and differences in the ion currents were present as a consequence of the solvation effectiveness of the van der Waals interaction. (1) Poveda J.C., Guerrero A., Alvarez I., Cisneros C. 17 Th Int. Mass Spectr. Conference. MoP – 062 Prague Aug. 27 – Sept. 1 2006

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Date submitted: 02 Feb 2007

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