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【614】Electronic Spectroscopy of Ionic Polycyclic Aromatic Hydrocarbons in Helium Nanodroplets

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Polycyclic aromatic hydrocarbons (PAHs) are isolated in multiply charged helium nanodroplets (HNDs). The charged dopant molecules are again liberated from the droplets upon collision with a stainless-steel surface, but remain decorated with up to several tens of helium (He) atoms. Action spectroscopy is performed on these He tagged species. A tunable pulsed laser is used for excitation and ion yields are recorded with a reflectron type time-of-flight mass spectrometer (TOF-MS). The recorded absorption spectra are compared to astronomical observations in order to identify possible carriers of diffuse interstellar bands (DIBs).

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