

## AN OBSERVATIONAL AND THEORETICAL VIEWPOINT ON PAHS IN THE JWST ERA

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Polycyclic Aromatic Hydrocarbons (PAHs) are known to dominate the infrared spectra of a wide range of objects in the Universe. The earlier space missions, the Infrared Space Observatory and the Spitzer Space Observatory have revealed the spectral richness of the mid-infrared spectrum and have been critical in revealing the ubiquitous nature of PAHs in the Universe. Now, the James Webb Space Telescope (JWST), with its unprecedented spectral resolution and wavelength coverage for PAHs, is set to revolutionize the field of PAH astrochemistry. In this talk, I will give an overview of the richness of PAH emission as seen in high-resolution spectra of the Orion Bar obtained through the ERS program PDRS4All ID:1288. This new JWST data emphasizes the importance of sophisticated theoretical models in fully understanding the molecular physics underlying PAH emission. One of the limitations of developing a theoretical model of PAHs is the lack of experimental data on PAH characteristics. In this talk, I will also discuss the relevant molecular data required to develop the photochemical evolution model of PAHs.