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A multi-filter exploration of the galaxy size-wavelength relation

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The James Webb Space Telescope provides unprecedented access to galaxies at a broad range of redshifts observed in a variety of filters, which correspond to different wavelengths of observation. Due to the extraordinary volume of accessible and distinct filters, we are able to see how physical information drastically changes based on the differences in galaxy emission captured at different wavelengths. This introduces a free parameter, wavelength, to add to an analysis of the notable galaxy size-mass relation which describes the correlation between mass and structure of a galaxy over time and provides insight into the potential environmental effects driving mass evolution. The objective of this work is to further the understanding of galaxy evolution through expanding the size-wavelength relation to a generalized relationship for any redshift and at any wavelength of observation.

Field of study

Astrophysics

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Session Classification: Poster session: Enjoy the posters!