

Irradiated Brown Dwarfs and their Desert

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Brown dwarfs are often described as failed stars, however the flip side of this description is that they can also be described as over-ambitious planets. With masses between 13-70 Jupiter masses they have cool atmospheres dominated by cloud features, molecules and show features due to weather. These atmospheres have a lot of similarities with atmospheres we see in planets in our solar system, and also directly imaged exoplanets. The question then is: How like hot Jupiters are irradiated brown dwarfs? I will discuss the phenomenon known as the brown dwarf desert and what we know about the atmospheres of irradiated brown dwarfs and their similarities with irradiated exoplanets including recent results from HST and JWST.