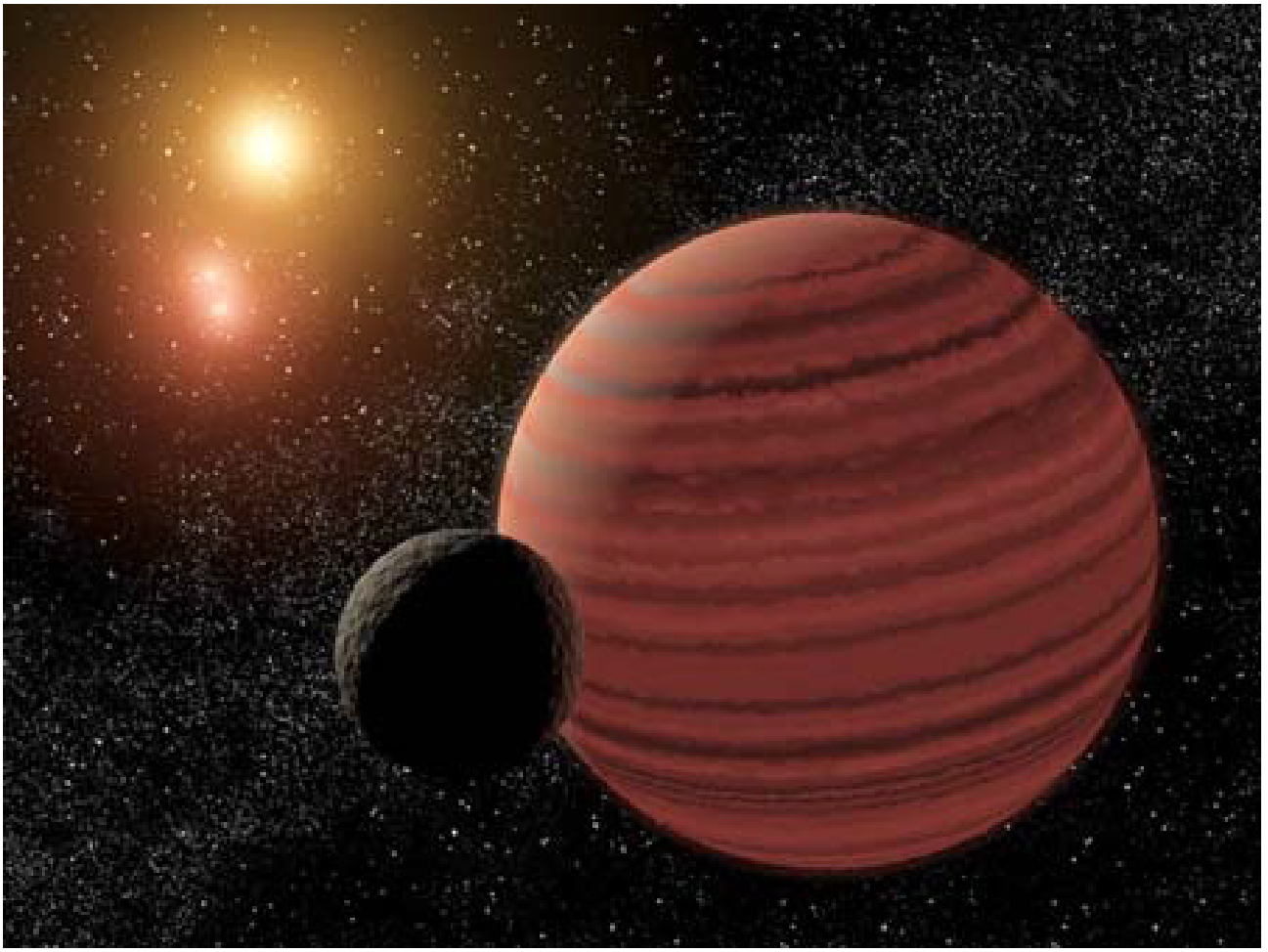
NATIONAL
AERONAUTICS
AND SPACE ADMINISTRATION

Brown Dwarf

Brown dwarfs are often thought of as "stillborn" stars, as they never acquired the mass necessary to ignite nuclear fusion, which generates the energy that allows stars to shine. Straddling the boundary between planets and stars, brown dwarfs have masses that range from twice the mass of Jupiter and 0.08 times the mass of our sun (which is the low mass limit for fusion ignition in the core). Brown dwarfs probably form in the same manner as stars, from a collapsing cloud of dust and gas. Astronomers now suspect that there may be as many -- if not more -- brown dwarfs in the universe as stars. Despite the lack of starlight generated by fusion, brown dwarfs are observable in the infrared, as they generate heat from gravitational contraction.



Artist's rendition of a brown dwarf and its moon orbiting a triple star system