

Touchdown Systems Technology for Space Exploration

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ABSTRACT

Touchdown systems for in-situ spacecraft are discussed. A brief review of heritage landing systems is given in context of describing the challenges posed by the next decade's exploration ambitions. The applications and limitations of legged landers, airbag landers, Skycrane landers and penetrators is presented in conjunction with three classes of target bodies: large gravity bodies such as Mars, Venus, Mercury, lunar gravity bodies such as the moon, gas giant moons, and small airless bodies with micro gravity environments. Future technology needs are also described.