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Automatic Boogie System

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Abstract: *Rocker bogie are important for conducting in-situ scientific analysis of objectives that are separated by many meters to tens of kilometers. Current mobility designs are complex, using many wheels or legs. They are open to mechanical failure caused by the harsh environment on Mars. A four wheeled rover capable of traversing rough terrain using an efficient high degree of mobility suspension system. The primary mechanical feature of the rocker bogie designis its drive train simplicity, which is accomplished by using only two motors for mobility. Both motors are located insidethe body where thermal variation is kept to a minimum, increasing reliability and efficiency. Four wheels are used because there are few obstacles on natural terrain that require both front wheels of the rover to climb simultaneously. A series of mobility experiments in the agriculture land, rough roads, inclined, stairs and obstacles surfaces concluded that rocker bogie can achieve some distance traverses on field..*

Keywords: Rocker bogie; Wheel type mobile robot; Stair climbing; Rover

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