

عنوان مقاله:

Stabilization and Walking Control for a Simple Passive Walker Using Computed Torque Method

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خلاصه مقاله:

The simple passive dynamic walker can walk down a shallow downhill slope with no external control or energy input. Nevertheless, the period-one gait stability is only possible over a very narrow range of slopes. Since the passive gaits are extremely sensitive to slope angles, it is important to use a control strategy in order to achieve a wide range of stable walking. The computed torque method is proposed here to produce stable period-one gait cycles for different slopes. In present method, the unstable walking gait is stabilized by a stable period-one gait pattern on a small specific slope. The proposed approach is illustrated by the simplest passive walkers with point and curved feet. Simulation results reveal the usefulness of this control method for improvement in stability properties of the models.

کلمات کلیدی:

Keywords: Passive Dynamic Walker, Walking Robot, Computed Torque, Stable Period-one Gait

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