

Robot and its control device & method

Realization of low computation cost and high balance & movement performance

Overview

Existing quadruped walking robot performs posture control calculation using a variety of information based on its own pre-defined model. However, such robot movement control requires a large amount of computation, resulting in high computation cost, slow motion and difficulty in providing flexibility. Therefore, in recent years, a method that realizes both low computation cost and high balance & movement performance is requested by minimizing the movement degree of freedom of the system and reducing the amount of computation necessary for movement control.

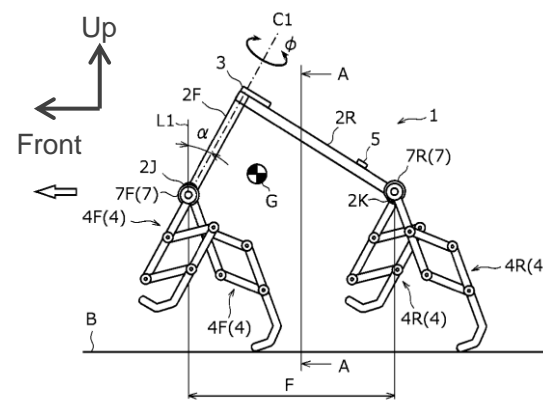
This invention is able to provide a robot that does not require a detailed model of the robot itself but can achieve stable move and high movement performance with a small amount of computation, as well as its control device and method. This invention has added one degree of freedom which is the "rotation around the center line" to the robot body. By controlling the rotation angle around this center line based on the sideways angle, the robot does not need a detailed own model and can achieve stable move with a small amount of calculation.

Product Application

- Quadruped walking robot
- Mobile robot for patrol, guard and deliver goods at factory

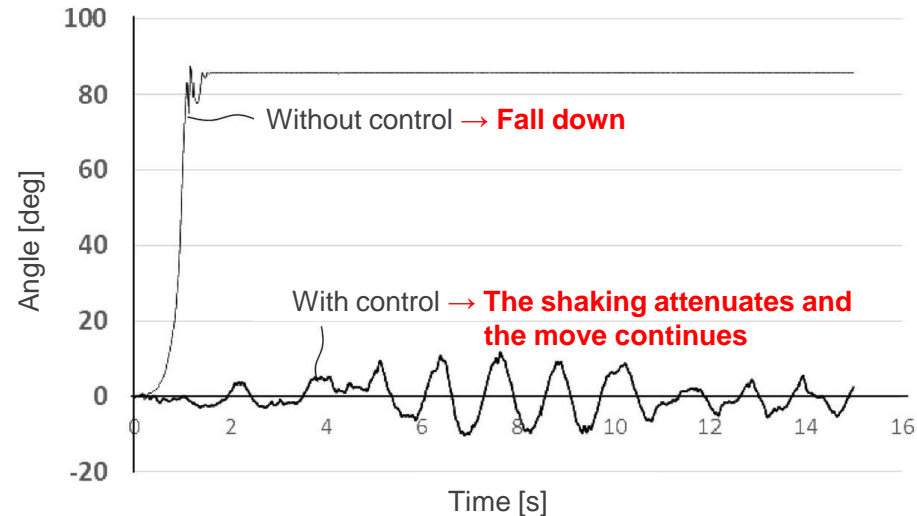
IP Data

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- 1. Body
- 2F. Front frame
- 2J. Front connection
- 2R. Rear frame
- 3. Operating section
- 4F. Front leg
- 4R. Rear leg
- 5. Detector
- 7. Motor
- ϕ . Front frame rotation angle
- C1. Center line

Stable move without falling down even applying an external force



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