

AN AUTONOMOUS CONTROL SYSTEM FOR A PROSTHETIC FOOT ANKLE

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Abstract: When walking on inclined ground the biological foot adjusts the ankle angle accordingly. Prosthetic foot users have often a limited range of motion in their ankle which makes walking on hills uncomfortable. This paper describes a system which can autonomously correct the ankle angle to the inclination. The ground angle is estimated using an accelerometer. The angle foot blade to heel is then adjusted with a DC-motor. Since the controller only activates the motor when the foot is lifted and thus not loaded, a small powered system can be used.

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