

Vector Coding – an application to gait stability and reaction to gait perturbation

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Abstract: The aim of this work is to present an analysis of human normal gait and reaction to gait perturbation with use of Vector Coding method. Understanding of human movement and reaction to perturbation plays a very important role in process of humanoid robot or autonomous exoskeleton balance and also can help to recreate body natural reaction. Vector coding gives a possibility of intersegmental coordination quantification and helps to see the difference between normal and pathological gait. In this case a comparison of normal gait and gait with imbalance (caused by a short duration force impulse) and return to stable/normal gait is analysed. Difference of intersegmental coordination and reaction to temporal perturbation are also considered.

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