عنوان مقاله:
The Influence of Learning Time on CPGs with Hopf Oscillators in Biped Locomotion

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خلاصه مقاله:
In this paper we study the effect of learning time in nonlinear dynamical control systems designed for locomotion movement systems, more specifically biped locomotion system. Due to the complexity of rhythms in locomotion movements, Central Pattern Generators (CPGs), inspired from nature, have been studied to provide a robust mechanism for producing the required rhythms. Artificial CPGs are composed of adaptive Hopf oscillators coupled together based on a neural network structure. Every Hopf oscillator has equipped with learning section, and through learning from its input signal, it is able to adjust its oscillation frequency and phase according to the frequency and phase of its input signal. Our aim here is to study the learning time and its trade-offs in accordance with preserving the stability and trajectory of the biped locomotion system against perturbations.

کلمات کلیدی:

 Lipsat نیت مقاله در سیویلیکا:
https://www.civilica.com/Paper-DCEAEM02-DCEAEM02_366.html