

# Fractional Control of Legged Robots

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## Abstract

Fractional calculus (FC) is being used in several distinct areas of science and engineering, being recognized its ability to yield a superior modelling and control in many dynamical systems. In this perspective, this article illustrates one application of FC in the area of control systems. A fractional-order PD controller is proposed for the control of an hexapod robot with 3 dof legs. It is demonstrated the system's superior performance by using the FC concepts.

**Keywords:** Fractional Calculus; PID; Fractional Control; Tuning; Hexapod Robot;

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