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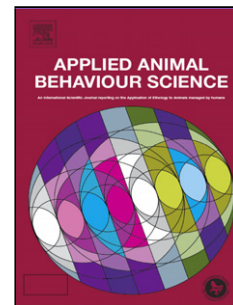
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The role of biomechanical analysis of horse and rider in equitation science

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Research highlights

Not applicable

REVIEW PAPER

Abstract

Equestrian sports are unique in that they involve the participation of two athletes that differ greatly in morphology yet are able to move together harmoniously; experienced riders not only move in phase with the horse, they can even improve the consistency of the horse's movements. The motion of the horse imposes perturbations on the rider that differ in magnitude and direction according to gait. In faster gaits where suspension phases are present, the rider must accommodate greater vertical and horizontal accelerations of the horse's trunk through three-dimensional movements of their axial body segments. The rider, in turn, can improve the horse's performance through correct training, or cause it to deteriorate through faults in the rider's

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