

利用瞄射軌跡所訓練的參數來預測放箭軌跡之研究

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摘要

In this paper, the linear time invariant auto-regressive exogenous moving average (ARMAX) process is adopted to model the aiming trajectory the aiming procedure recorded by a high speed camera at 1200 frames/sec. The minimum mean square error (MMSE) criterion and generic algorithm (GA) have been implemented to estimate the coefficients of the ARMAX. The estimated parameters are local optimal solution for MMSE, and GA is superior to that of MMSE criterion as expected. The aiming procedure is divided into two parts, The first part representing the intending aiming procedure is used to train the ARMAX, and the trained parameters are adopted to predict the releasing arrow action, as denoted the second part. For good archers, the first and the second parts can be almost represented by the same model.

關鍵字：ARMAX; Archery; MMSE; GA