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## High-Speed Video Acquisition and Analysis of Taekwondo Kicks

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# **High-Speed Video Acquisition and Analysis of Taekwondo Kicks**

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Taekwondo is a form of martial arts that is characterized by techniques such as: kicks, spins, and strikes. We hypothesize that through these movements, angular momentum acts as an essential characteristic of the motions used in Taekwondo. In order to study the movements, we constructed a large “Lazy Susan”, that a martial artist stands on and performs several kicking motions. High-speed videos of the performance are collected and the footage is analyzed. The analysis results in calculations determining rotation rate(s) and the integration of angular momentum in Taekwondo. A further understanding of angular momentum in a Taekwondo system would allow us to better comprehend how energy and forces are associated in martial arts, as well as, create improved kinematic models of Taekwondo forms