



Sport Research and Innovations

Do you have this Olympic dream or do you like sports and engineering, in particular skating?
You can take initiatives, are creative and go for the gold medal?



Clap skate



Long track speedskating



High skate



Shorttrack speedskating

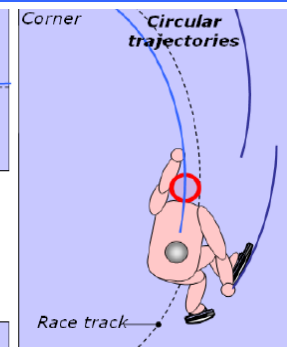
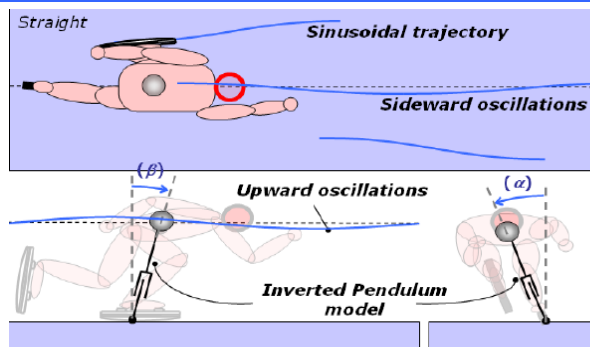
For the best skating results you need the best materials and a good skating technique. But how do you gain speed? What is a good skating technique and what is the best skate? Is this the same for all individuals? How can I improve my results even more? These questions keep modern top skaters constantly busy. Currently TUDelft in close collaboration with NOC*NSF, KNSB, InnoSportNL has some projects in this field with the final goal of more medals and world records!

Research oriented projects

Simplest Skater Model of the corner

To move forward, a skater pushes sideward. The skater balances on a thin sharp edge at speeds over 60 km/hr. In cornering, skaters constantly lean towards the center of the corner thereby resisting centrifugal forces. Changing the direction of motion costs effort, but still skaters manage to accelerate during the corners. In fact, the corners are becoming more and more important in competitions and skaters tend to elongate the corner as much as possible.

Recently a dynamical model of a skater was developed and validated for the straights. Such a dynamical model gives valuable insights in skating technique of individual strokes.



Assignment: What is the simplest skating model able to investigate optimal skate technique in the corners?
Compare measured skate motion with model results. In what sense is the motion optimal?

Remarks: Testing facilities and skaters will be provided
More info: www.schaatsonderzoek.3me.tudelft.nl

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