Technion-Israel Institute of Technology

Computer Science Department

**Center for Graphics and Geometric Computing**

CGGC Seminar

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Accessibility for Line-Cutting in Freeform Surfaces

Manufacturing techniques such as hot-wire cutting, wire-EDM, wire-saw cutting, and flank CNC machining all belong to a class of processes called line-cutting where the cutting tool moves tangentially along the reference geometry. From a geometric point of view, line-cutting brings a unique set of challenges in guaranteeing that the process is collision-free. In this work, given a set of cut-paths on a freeform geometry as the input, we propose a conservative algorithm for finding collision-free tangential cutting directions. These directions, if they exist, are guaranteed to be globally accessible for fabricating the geometry by line-cutting. We then demonstrate how this information can be used to generate globally collision-free cut-paths. We apply our algorithm to freeform models of varying complexity.
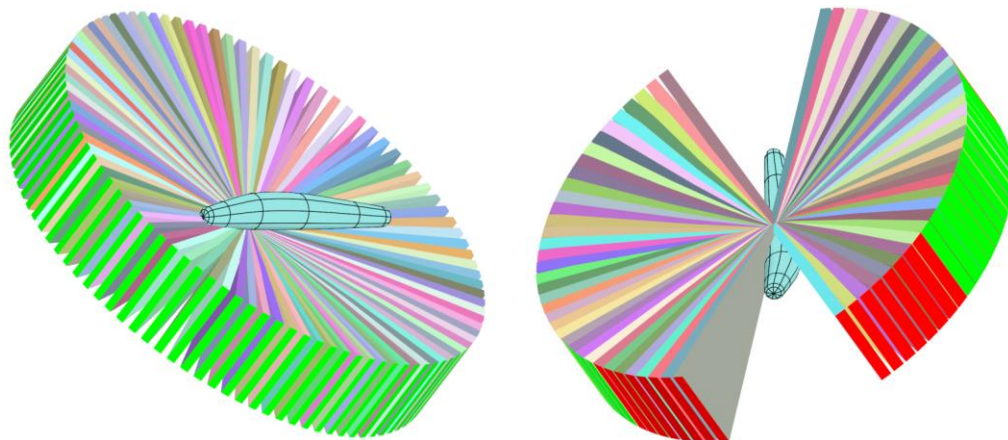
The lecture will be held on Sunday, 02.06.2019, at 13:30, Taub 337

הזמנה זו מהווה אישור כניסה עם רכב לטכניון