

Hard versus Easy in Robot Motion Planning: Closing the Ring

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Abstract

Early results in robot motion planning had forecast a bleak future for the field by showing that problems with many degrees of freedom are intractable. Then came sampling-based planners that have been successfully, and often easily, solving a large variety of problems with many degrees of freedom.

We strive to formally determine what makes a motion-planning problem with many degrees of freedom easy or hard. I'll describe our quest to resolve this (still wide open) problem, and some progress we have made in the context of multi-robot motion planning.

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