View Meta-Reviews

Paper ID
340

Paper Title
An Improved Maximal Continuity Graph Solver for Non-repetitive Manipulator Coverage Path Planning

META-REVIEWER #1

META-REVIEW QUESTIONS

1. Summary and assessment of the paper in light of the reviews.
The paper addresses the problem of non-repetitive coverage path planning, which is useful for various types of coverage operations in industry, like polishing and deburring. The goal of the paper is to minimize the number of lift-offs, which are occasionally needed to use alternative IK solutions. In a sense, this is related to the global redundancy resolution problem. The paper is an extension of a related work that greatly reduces the computational complexity (a factor of 2^N) by collecting cells that can be covered by uniform IK solutions into coherent units, and then enumerating possible settings for those units rather than individual cells. The paper is technically interesting and appears to have a legitimate contribution.

However, the presentation is weak because the writing jumps immediately into very dense low-level description, and does not include the "breadcrumbs" that would help a reader understand the theory: to wit, definitions / lemmas / theorems / pseudocode. The writing is more of a narrative format interspersed with examples (which are admittedly helpful, but a reader would prefer to have theorems and definitions).

META-REVIEWER #2

Not Submitted