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Robot-manipulators as submanifolds. (English) Zbl 0793.53011
Math. Pannonica 4, No. 2, 235-247 (1993).

Summary: Robot-manipulators with less than six degrees of freedom are considered as submanifolds of the pseudo-Riemannian Lie group C_6 of all orientation preserving congruences of the Euclidean space. They are generalisations of quadratical ruled surfaces in Euclidean geometry to the geometry of C_6 . In the paper we discuss the problem of existence of one more “straight” line of such a submanifold and describe relations of this problem to the geometry of the motion of robot-manipulators.

MSC:

53A17 Differential geometric aspects in kinematics

Cited in **1** Review
Cited in **3** Documents

Keywords:

pseudo-Riemannian Lie group; congruences

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