

研究、探讨

## 6-DOF并联机器人位置正解的实用解法

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**摘要** 对6-DOF并联机器人的位置正解进行了研究和分析, 通过位置反解的求解思路来解位置正解的问题。将上下平台统一在一个坐标系下。按照空间两点间距离计算公式, 以6个杆的伸长值为已知量, 位姿参数为未知量, 建立关于6个杆的参数方程。通过迭代法求得位姿参数。特点之一是未知量个数少, 计算精度高; 另一特点是从实现的角度来阐述, 实用性强。通过实验验证该思路满足即时控制的要求。

**关键词** [并联机器人](#) [位置正解](#) [迭代](#)

分类号

## Practical solution of 6-DOF parallel robot position forward solution

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### Abstract

This paper studies and analyzes the 6-DOF parallel robot position forward solution, solves the forward solution problem through the inverse solution method. First unify the top and bottom platforms under a coordinate system. According to the formulas of the distance between two points in the space, take 6 poles elongated values as known quantities, the position posture parameter as unknown quantities, establish 6 poles parametric equations. Solve the posture parameter through the iteration method. One of the features is that the unknown quantities are few in number, but the computation precision is that higher. Another feature is that the usability is strong. Experimental results show that this method satisfies the real-time control requirements.

**Key words** [parallel robot](#) [position forward solution](#) [iteration method](#)

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