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Coordinate transformation based on dual quaternion and total least squares adjustment

Monday, 8 May 2023 16:30 (2 hours)

Coordinate conversion is used in many aspects, such as laser tracker transfer problem, the conversion between WGS84 coordinate system and local coordinate system and so on. The high precision of coordinate conversion model is beneficial to improve the accuracy index of the network. The dual quaternion can integrate rotation and translation, which effectively simplifies the complexity of the trig function calculation of rotation matrix, and the overall least square adjustment considers the error problem of common points, and improves the accuracy of the model from two aspects.

Funding Agency

Footnotes

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Yes

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