

ABSTRACT

The present invention relates to a control method for self-collision avoidance of a robot having multiple joints and a robot for performing same. The method comprises the steps of: modeling
5 each of collision-prone parts of the robot as a three-dimensional shape having a line segment and a circular cross-section; calculating the shortest distance between a first line segment of a first collision-prone part and a second line segment of a second collision-prone part among the modeled collision-prone parts;
10 applying the Jacobian matrix to a first point on the first line segment and a second point on the second line segment, which form the shortest distance therebetween, to calculate relative Jacobian between the first and second points; and calculating a speed for avoiding collision between the first and second collision-prone
15 parts by using the size of the three-dimensional shape, the shortest distance between the first and second line segments, and the relative Jacobian between the first and second points.

FIG. 2

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