

ABSTRACT

The present invention relates to a mechanical arm and a control method therefor. The mechanical arm comprises a spatial positioning mechanism, a planar motion mechanism, and a self-rotating joint that connects the spatial positioning mechanism and the planar motion mechanism. wherein the space positioning mechanism comprises a base and a joint mechanism, the joint mechanism comprises a plurality of joints which are installed in sequence, the joint at the head end of the joint mechanism is installed on the base, and the joint at the tail end of the joint mechanism is rotatably connected to the self-rotating joint; the tail end of the planar motion mechanism is connected to a surgical instrument, and a vertical line of the plane where the planar motion mechanism is located is perpendicular to the rotation axis of the self-rotating joint; the intersection between the rotation axis of the self-rotating joint section and the axis of the surgical instrument is a driving fixed point, so as to conveniently set the driving fixed point; the rotation of the surgical instrument around the driving fixed point does not require the spatial positioning mechanism to move, such that the occurrence of multi-arm collision is reduced; and the infinity solution of the same posture of the surgical instrument can be realized by means of the linkage of the spatial positioning mechanism, the planar motion mechanism and the self-rotating joint, such that the kinematics solution is simple.