

Cartesian parallel manipulators/Analytical manipulators with three translational degrees of freedom

A manipulator having three support legs each extending between the platform and a ground. The support legs are connected to the ground by a first joint member and to the platform by a second joint member, and these joint members are interconnected by a third joint member. The support legs each have a rotational degree of freedom and have constraints in the joint members operable to restrict the platform to translational motion and to constrain a relationship between linear displacement of the first joint members and output of the platform to be linear.

With three actuators each controlling exclusively one of three translational degrees of freedom of the platform, the manipulator is said to be decoupled. With the relationship being equal for a linear displacement of any one of the first joint members and a displacement output of the platform, the decoupled manipulator is said to be isotropic.
