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(54) **Title**: METHOD FOR CALIBRATING A ROBOT MOUNTED ON ACTIVE MAGNETIC BEARINGS

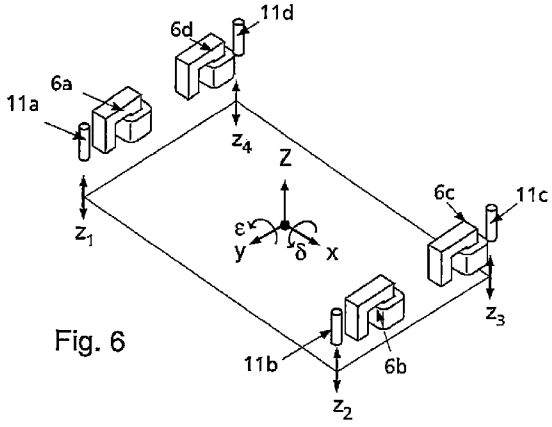


Fig. 6

(57) **Abstract**: Method for calibrating a robot mounted on active magnetic bearings and having a gripper, which is vertically positionable along the z axis and which is displaceable in a first magnetic bearing along the x axis and in a second magnetic bearing along the y axis. A quick and precise orientation of the gripper of the robot is intended to be enabled by way of the invention. This is achieved by dividing the first and second magnetic bearings into in each case four mounting points (6a, 6b, 6c, 6d; 6e, 6f, 6g, 6h); defining the setpoint centre coordinates for the X, Y, Z axis and also the setpoint values for the angular positions δ, ε and transformation of the setpoint values into setpoint values for the vertical setpoint positions of the in each case four mounting points (6a, 6b, 6c, 6d; 6e, 6f, 6g, 6h); specifying the actuating forces F1-F4 for the electromagnets of the in each case four mounting points (6a, 6b, 6c, 6d; 6e, 6f, 6g, 6h); determining the current vertical positions in each case for the in each case four mounting points (6a, 6b, 6c, 6d; 6e, 6f, 6g, 6h); measuring the current vertical position z of the in each case four mounting points (6a, 6b, 6c, 6d; 6e, 6f, 6g, 6h) and conversion into actual centre coordinates; comparing the actual centre coordinates with the setpoint centre coordinates, determining the deviation and repeating the preceding steps.

WO 2012/175473 A2