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(54) **Articulation system for robot comprising a speed reducer provided with vibration cancelling means**

(57) In an articulation system for a robot according to the present invention, an eccentric rocking type planetary gear speed reducing mechanism is used, but a two-stage speed reducing structure is not employed. Output of an acceleration sensor (11) attached to an output shaft (7) of a speed reducer (10) is passed through a band pass filter (12) to obtain a vibration component. Based on the obtained vibration component and the rotational phase of the motor detected by a pulse coder (13), a vibration suppression correction torque corresponding to the rotational phase of the motor is determined. The vibration suppression correction torque is added to the torque command Tc to correct the torque command and causes the motor (1) to operate in accordance with the corrected torque command. The vibration suppression correction torque is determined by learning processing and is updated until the vibration component is sufficiently reduced. when the vibration component has been sufficiently reduced, this updating operation is stopped, the vibration suppression correction torque is fixed. Further, the torque command is corrected, and operation of the motor (1) is controlled in accordance with the corrected torque command.

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