

Abstract

A rail vehicle (10) comprises: a permanent magnet synchronous motor (3); an inverter (1) for driving the permanent magnet synchronous motor (3); and a vehicle speed sensor (9) for detecting the vehicle speed V_{Tcar} . The initial rotational speed ω_{est0} is estimated based on the vehicle speed V_{Tcar} ; the angular velocity (ω_{est}) is estimated, taking the initial rotational speed (ω_{est0}) as the initial value; the rotational phase angle (θ_{est}) is estimated based on the angular velocity (ω_{est}); and the inverter (1) is controlled based on the rotational phase angle (θ_{est}).

[Selected drawing] FIG. 1

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