Anti-slip Readhesion Control Method to Increase Starting Tractive Effort of Electric Locomotive Fed by Inverter

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JR Freight company has developed a HD300-Type diesel hybrid shunting locomotive as a substitute for super-annuated DE10 type diesel shunting locomotives. In an early stage of development, it was found out that a stable tractive effort just after starting was difficult to ensure. Accordingly, we have improved the signal delay of wheel rotating acceleration used for determinating a stop of torque reduction of an anti-slip readhesion control method and developed an anti-slip readhesion control method to reduce the amount of torque reduction and to increase the tractive effort on average. The developed method has increased the tractive effort by 5% on average compared with that before development, and been applied to mass produced HD300-Type diesel hybrid shunting locomotives.