

## **Analysis of Loss Reduction Effect of Space Provided in Induction Motor Rotor Slots**

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Induction motors are widely used as traction motors of railway vehicles. The loss of the traction motors contributes to a large portion of energy consumption in trains. Therefore, improving the efficiency of the induction motors is very important for saving energy. In this paper, we have proposed a new rotor design for reducing the harmonic loss generated near the surface in the rotor and we have estimated the efficiency of the rotor newly designed from the result calculated based on the electro-magnetic field analysis. The result indicates that the loss of the new design rotor is lower by 3.4% than that of conventional one.