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A study on the control method of lateral displacement and yaw angle in severely curved driving of IRWs system

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This paper proposes an optimal control algorithm through lateral displacement and yaw angle in curved road of shallow-depth subway systems. In the case of the surface transportation, which has recently been introduced, severe curved driving performance is required for the downtown. The existing researches are the main research theme of the lateral displacement restoration control, but there is a limit to smooth operation when the curve is run only by receiving the lateral information. However, when the yaw angle information is obtained, it is possible to consider the turning angle of the vehicle while the vehicle is driving in a curved road. However, it is difficult to control because the change of yaw angle is more sensitive than lateral drift. Therefore, this paper suggests an algorithm that uses both lateral displacement control and yaw control. The proposed method will be verified with the Matlab/Simulink model and the effectiveness of the proposed method will be verified through small-scale bogie system.

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