Operation Risk Assessment Method based on Information on Wayside and Vehicle Conditions for Autonomous Train Operation

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We have been developing an autonomous train operation system that allows trains to be operated automatically while controlling wayside equipment based on the conditions of a vehicle and wayside. Autonomous train operation not only controls the acceleration and deceleration of a train, which is achieved by automatic operation, but also automatically makes operational decisions on board. We have developed a railway dynamic map as an information infrastructure for collecting and sharing necessary onboard and wayside condition information for making operational decisions and for risk assessment. This paper provides an overview of condition information management and risk assessment using railway dynamic map.