

Development of a Train Positioning System Using Track Curvature Collation Applied with Spatial Filtering

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The train positioning system by means of the ATS beacon used in the tilting train requires sorting out the ATS beacon and updating the in-vehicle database according to the relocation of ATS beacons. Under the method proposed, track curvature data calculated by means of dividing the yaw rate of the carbody by the running speed are held as the on-board database, and the position of the train is detected based on the comparison with the track curvature data during running. In this case, applying a spatial filter improves detection accuracy and reduces database updating frequency. This paper presents the outline of the system and the detection accuracy.