

Train Control Systems for Secondary Lines without Track Circuits or Wayside Signals

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To reduce the maintenance cost, we develop a new train control system for secondary lines without track circuits or wayside signals. In this system, each of the train position is obtained from absolute position information given by beacons and accumulation of tachometer output. The central train control unit collects all of the train positions via radio equipped only at stations, manages the routes and blocks between stations, and gives the movement authorities to the trains via radio. We installed the prototype system at a commercial line and executed the test run to verify the system functions.