

Detecting Methods of Pantograph Failure by Using Sensors Installed on Contact Lines

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Pantograph failure may lead to a serious accident resulting in the widespread damage of contact lines. Therefore, an early detection system for pantograph failure has been required. The authors developed a new detecting method of step-shaped wear on contact strips which is one of the typical pantograph failure modes and carried out field tests in order to verify the effectiveness of this method. The test results show that this method which detects characteristic waveforms generated when a pantograph containing contact strips with step-shaped wear passes is available on a commercial line.