

In Situ Analytical Method of Interfacial Substances between Wheel and Rail

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This paper describes an experimental investigation of on the spot X ray analysis of interfacial substances between wheel and rail such as iron rusts and lubricants, which have an influence on adhesion coefficient. The field test of the X ray analysis using portable X ray analyzer called “XRDF” was carried out. The X ray diffraction analysis of the corroded rail and the X ray fluorescence analysis of the solid lubricated rail were carried out, after the test vehicle passed over it several times. By applying XRDF analysis on the spot to the rail surface substances, we have obtained some knowledge about the alteration process of corrosion layer and spreading characteristic of lubricants while the railway vehicles passed by.