Detection of the Position of Workers in Railway Tracks by Means of 90GHz Band Millimeter-Wave Radar

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In recent years, the introduction of automatic train operation has been studied, and it is expected that the method of automatically detecting humans and obstacles in the railway tracks will be more important than ever. Therefore, the authors have been working on the development of a monitoring system for detecting humans and obstacles in the railway tracks with high accuracy by monitoring a wide area using 90 GHz band millimeter-wave radar and Radio on Fiber (RoF) technology. In this paper, we describe the results of tests conducted to confirm the specific performance of the position detection of humans in railway tracks using 90 GHz band millimeter-wave radar, and show that the monitoring system can detect humans and their location. Furthermore, we describe the future efforts at the realization of the monitoring system in railway tracks by means of 90 GHz band millimeter-wave radar.