

Effective Visual Behavior by Railway Drivers upon the Recognition of Extraordinary Events

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The purpose of this study is to investigate the effective visual-searching behaviors for recognizing the extraordinary events based on the eye movements of railway drivers. The subsidence of the railway track in front of the drivers was set as an extraordinary event. Associated with the setting of the extraordinary events, two driving scenarios of high velocity (approximately 90km/h) and low velocity (approximately 15km/h) were set. In the high velocity driving scenario, the drivers with longer gaze duration and larger dispersion during each visual-searching recognized the subsidence easily. In the low velocity driving scenario, the drivers with larger dispersion of gaze position in the horizontal direction during each visual-searching recognized the subsidence easily.