

## **Decision Support System for Replacement Planning of Wooden Sleepers to PC Sleepers**

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In the track structures using wooden sleepers, rail fastening condition would be weakend, when suitable maintenance of wooden sleepers is not executed. If the bad condition is continued, the gauge will be enlarged and derailment accident will eventually occur. Therefore, the condition of the wooden sleepers is an important inspection item, in order for railway companies to prevent the occurrence of the accident, and replacing work of degraded sleepers should be executed placing priority on the worse sleepers. In addition to such maintenance for eliminating the derailment occurrence probability, some railway companies are replacing wooden sleepers with concrete sleepers. However, a large amount of initial cost is necessary for executing the replacement. Therefore, we have developed a decision support system to draw up a plan to select effectively an appropriate curve when the sleepers are to be replaced in terms of improving running safety. In this paper, we report on the contents and function of the system.