Development of Detecting System of Fatigue Crack in Steel Railway Bridge Using Electric Conductive Surface Material

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In maintenance of steel railway bridges, assessment of safety against fatigue failure is considered as one of significant factors. The current method of the inspection of the steel railway bridge has been mainly visual check. Therefore, it is needed to devise a method for detecting fatigue cracks automatically with greater accuracy. We have developed an electric conductive paint which can detect the generation and the progress of fatigue cracks. We have evaluated the detective properties by the experiments under the simulated actual steel bridge and real environment. Further we have examined the optimization of the installing method of this device in order to judge whether this device can be applied to actual steel bridge or not.