

Development of Remote Non-contact Vibration Measurement Technology for the Inspection of Railway Bridge

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Remote non-contact measuring systems for the health monitoring of railway bridges were newly developed by RTRI. In this report, U-Doppler II which is a new model of a non-contact vibration measurement system intended to be used at railway companies is introduced first. A method for efficiently estimating the natural frequencies and the tensile forces of cable stayed bridge cables was proposed using long-distance U-Doppler which was developed for the inspection of long-span bridges and continuous rigid-frame viaducts. Furthermore, an unmanned aerial vehicle (UAV) for structural inspection was developed that can run under the structure surface by a continuous track to shoot harmful alteration areas.