

Image Measurement of Bridge Girder Deflections on Conventional Line at Night with Reflective Stickers

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Image measurement of bridge girder deflection using a video camera has been used on actual railway. However, its applications are limited to daytime when illumination can be secured sufficiently. In this study, the authors investigated an image measurement method for bridge deflection at night using light, small, and simple reflective stickers in addition to a minimal amount of lighting equipment. As a result of the investigation, it was decided to make appropriate use of the contrast between the reflective sticker and the surroundings, and the effectiveness of the proposed method was confirmed by measuring the girder deflection of actual bridges on a conventional line. The result of the actual bridge measurement showed that the girder deflection of the bridge at a distance about 20 meters could be measured with the same accuracy as during the daytime.