

Analysis of Factors for Cracking at RC Girders by Using Image Analysis and FEM

Ken WATANABE Yusuke MIYAMOTO

To predict causes of the cracking of concrete is useful for evaluating the present or future performance of reinforced concrete structures. The objective of this study is to evaluate the influential factors acting on the reinforced concrete girders by automatically extracting cracks from images and reproducing the extraction results by non-linear finite element analysis (FEM). The paper clarifies the effect of the weight of girders, soundproof wall, tracks, vehicle, temperature, shrinkage, and creep of concrete on the performance of the RC bridge.