# Condition monitoring of asphalt pavement using ground penetrating radar

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## ABSTRACT

Asphalt pavement deteriorates under exposure to contaminated water. Rainwater is seeping through asphalt layer and stagnated in the concrete surface due to the low permeability of the concrete. Contamination in the stagnant water zone containing Chloride ion from the deicing agent results in potential degradation of the overlayed asphalt as well as concrete. For a prognostic monitoring of the asphalt pavement, this study proposes a method for detecting the stagnant water map obtained using ground penetrating radar (GPR). Topographic prominence analysis is employed to identify stagnant water zone. The proposed method is field validated using an operational highway bridge.
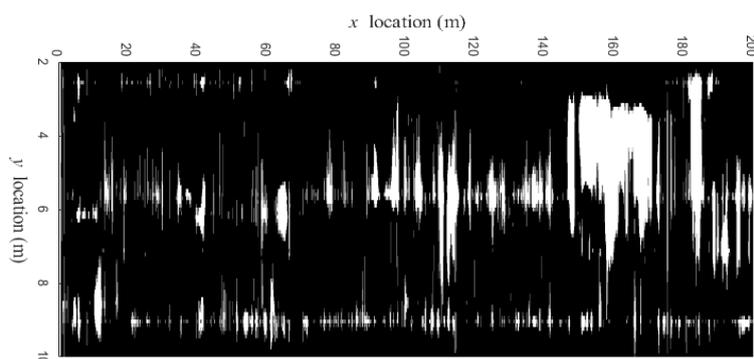
Fig. 1 Stagnant water map of an operational highway bridge

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