USING NDE APPLICATIONS FOR ASSESSMENT OF PAVEMENT CONDITIONS: TOOLS FOR PUBLIC SERVICES

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Road users needs are commonly safety and comfort. Presence of structural defects as rutting, potholes and cracks could be an obstacle to these needs. The road in-charge authorities have to assess the network condition. A well established diagnostic would help planning maintenance and rehabilitation and therefore road users would be less bothered. High-efficiency NDE methods provide information on the pavement structural condition at reasonable costs. Their use also has a low influence on the traffic. At the regional laboratory of Rouen, France, we use visual defects detection methods and Ground Penetrating Radar in order to provide an overview of the road condition.

Visual detection methods (IQRN and Visiodec) consist in filming the road, measuring geometrical factors and adhesion. Pictures are analyzed. Defects are classified by range depending on the size and the type. Hence the analyzed pavement is graded on different scales. Depending on the grade, the road administrators have an overview of the situation along the pavement. Surface defects are often due to deeper structural deformations. Ground Penetrating Radar allows to image interface variations in the pavement. Studying these variations permit a better interpretation of the surface defects. This paper overviews our methodologies through cases and give few tools for index standardization.

Key words: Visual detection, GPR, Road, Index, combined methods.