

Non-Destructive Visual-Statistical Approach to Detect Leaks in Water Mains

Authors : Alaa Al Hawari, Mohammad Khader, Tarek Zayed, Osama Moselhi

Abstract : In this paper, an effective non-destructive, non-invasive approach for leak detection was proposed. The process relies on analyzing thermal images collected by an IR viewer device that captures thermo-grams. In this study a statistical analysis of the collected thermal images of the ground surface along the expected leak location followed by a visual inspection of the thermo-grams was performed in order to locate the leak. In order to verify the applicability of the proposed approach the predicted leak location from the developed approach was compared with the real leak location. The results showed that the expected leak location was successfully identified with an accuracy of more than 95%.

Keywords : thermography, leakage, water pipelines, thermograms

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