Efficient Online Source Identification Algorithm for Integration within Contamination Event Management System

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Abstract. Drinking water distribution networks are part of critical infrastructures and are exposed to a number of different risks. One of them is the risk of unintended or deliberate contamination of the drinking water within the pipe network. Over the past decade research has focused on the development of new sensors that are able to detect malicious substances in the network and early warning systems for contamination. In addition to the optimal placement of sensors the automatic identification of the source of a contamination is an important component of an early warning and event management system for security enhancement of water supply networks. Many publications deal with the algorithmic development, however, only few information exists about the integration within a comprehensive real-time Event Detection and Management System. In the following the analytical solution and the software implementation of a real-time source identification module and its integration within a web-based Event Management System is described. The development was part of the project SAFEWATER, which was funded under FP 7 of the European Commission.