



Vulnerability of sewer network – graph theoretic approach

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ABSTRACT

One of the most important structures in urban areas is an efficient sewer system to protect humans and the environment from the detrimental effects of wastewater. Such sewer systems often consist of pipes, manholes, pumping stations, and other complementary units. Strict monitoring of the sewer system is highly essential as any leakage can cause undesirable effects on health and safety. The layout is modeled as a graph which contains all sewer links and satisfies all the restrictions of a sanitary sewer system. In this work, we apply centrality measures on the sewer network system and water distribution system and also analyze the vulnerability of these systems.

Keywords: Sewer system networks, Water supply networks, Centrality, Group betweenness centrality, Group closeness centrality

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