都市小流域의 流出解析을 爲한 水文模型의 開發과 應用

(Development and Applications of Hydrologic Model of Storm Sewer Runoff at Small Urban Area)

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Abstract

The paper presents the development and applications of physically-based urban runoff analysis model,URAM,which is capable of simulating sewer runoff hydrographs and inundation conditions within a small urban catchment.The model considers three typical flow conditions of urban drainage networks,whichn are overland flow,gutter flow,and conduit flow during a storm. Infiltration,retention storage and flow routing procedures are physically depicted in model.

It was tested satisfactorily with field data from a tested catchment having drainage area of 4.91 ha.It was also applied to other urban areas and found to adequately simulate inundation areas and duration as observed during storms.

The test results as well as model components are described in the paper.

要 旨

都市化한 小流域에서 排水組織의 物理的 特性 變化에 依한 流出現象과 浸水狀況을 定性的으로 評價할 수 있는 都市流域에서의 流出解析模型(URAM)을 開發하여 試驗流域에서의 實測値와 本 模型을 利用한 模擬發生値를 比較하여 模型을 檢證한 後 實流域에 適用하여 應用性을 評價하였다

URAM을 利用 試驗流域의 流出現象을 模擬發生한 結果 實測値와 잘 一致함을 보여주었으며 또한 常習浸水地域에 대하여 浸水現象을 模擬發生시킨 結果 計算된 浸水特性은 實際 現況과 定性的으로 잘 一致하여 본 模型은 都市小流域 流出解析에 利用價値가 높은 것으로 判斷되었다.

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