Abstract:
According to the literature review, the intrusion of clear parasitic water into sewage collectors often poses a problem of management, disturbs the functioning of the purification stations and also presents a mechanist impact on the determination of the dominating parameters (velocity, water depth) during study of the collectors free flow. This situation, complicated in modeling, represents one of the problems encountered usually by the sewage networks managers. Several mechanist models treated shows that the impact of the intrusion flow is unimportant; this does not reflect reality, especially when considering the diffusion wave generated by this flow which causes a considerable disturbance of the water level. Accordingly, and starting from the Saint Venant equations ,our work consists in establishing, with an approached method, a combined mathematical reasoning aiming the determination of the couple (Velocity - water depth) taking into account the intrusion flow supposed laterally along the collector. This study is of paramount interest not only for dimensioning of the Sewage network collectors but also for the well designing of the works necessary for the management such as storm weirs, by-pass weirs, etc.
Key words: parasitic water; collector; storm weirs; modelling; sewage.