

부분아질산화-아나모스 공정 통합 모델링 및 정합성 평가

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Nutrient removal in wastewater treatment plant (WWTP) processes has been an object of study for several years, thereby nutrient removal technologies have been commercialized over time. In this study, Partial Nitritation (PN) -Anammox process was modeled and implemented on the benchmark simulation model No. 2 (BSM2) of a WWTP. The objective is to analyze the nitrogen removal of different process control scenarios. The scenarios were developed utilizing proportional-integrative-derivative controllers and model predictive controllers. The results showed that PN-Anammox process improved the nitrogen removal of the plant to an 85% compared to the basic BSM2. However, the plant's operation cost was increased for the BSM2-PN-Anammox.

Keywords: Process control; Nitrogen removal; Partial Nitritation; Anammox; Cascade control; Climate change adaptation

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