# MBR공정 fouling 진단 및 화학세정주기 결정 RLS모델링

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Despite of numerous merits of membrane bioreactor (MBR) process, it has a drawback called MBR fouling. Fouling is the problem that restricts performance of MBR plant as accumulated with microbial flocs and particle matters on surface of membrane. Therefore, it becomes more important for prediction model that represents progress of fouling and timing of membrane cleaning, resulting in evaluation of filtration efficiency of membrane and economic of operation. However, traditional prediction model has a limitation assumed that operation is occurred under the steady-state not considering dynamics. To overcome the limitation, dynamic indexes which are updated using recursive least-square and the coefficient (Kt) and intercept (b) of MBR fouling mechanism linearized in one are used. And then, dynamic behavior of parameters is identified by integral and differential calculus with Kt and b and standard for timing of membrane cleaning is suggested. As a result, it is expected that prediction model having high accuracy will be established in actual MBR as considering dynamic operation.
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