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mechanical expression alone. Therefore, EOD-ME could potentially be an effective dewatering technique for sludge.

P-69   Efficient Method for the Purification of Coagulated Sewage Secondary Effluent

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Constant rate microfiltration experiments are conducted in purification of sewage secondary effluent pretreated with polyaluminum chloride (PAC). Monolithic ceramic membrane having a nominal pore size of 1.0 micro meter with 19 tubular channels is used as a filter medium. The system is capable of selecting the required mode of membrane cleaning, i.e., physical backwashing or chemically enhanced backwashing, based on the set value of the operating parameters. Flow resistance resulted from the formation of the filter cake is reduced by the physical backwashing, but in spite of this, the flow resistance increases gradually in a longer period of operation due to irreversible pore blocking. Hence chemically enhanced backwashing should be conducted occasionally. Sodium hypochlorite is used as cleaning agent and it is injected automatically when pore blocking reached to the preset level. The experimental results showed that the chemically enhanced backwashing is effective in restoring the increased portion of the flow resistance. The fully automatic system was found to be stable regardless of the variable influent quality and could be run at relatively higher flux of 3.0 m/d for a long period of time. The filtrate is free from pathogens and can be reused as reclaimed water for toilet flushing, car washing, etc. Furthermore, the results obtained under various operating conditions indicated that when process optimization is considered, there should be a trade off between the energy consumption and the amount of cleaning agent used per net filtrate volume.

P-72   The multistage homotopy-perturbation method: A powerful scheme for handling the Chaotic Lorenz system

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In this paper, a new reliable algorithm based on an adaptation of the standard homotopy-perturbation method (HPM) is presented. The HPM is treated, as an algorithm in a sequence of intervals (ie time step) for finding accurate approximate solutions to the famous Lorenz system. Numerical comparisons between the multistage homotopy-perturbation method (MHPM) and the classical fourth-order Runge-Kutta (RK4) method reveal that the new technique is a promising tool for the nonlinear systems of ODEs.

P-73   Achirality Via Graphs

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This article is devoted to establish relationship between knots and planar graphs. This relationship enables us to investigate the total numbers of regions and their relationship with corresponding crossings in a reduced alternating achiral knot. It has been shown that the numbers of regions in a reduced alternating achiral knot is always even and the number of crossing is always two less than the number of regions. Finally we were able to establish necessary conditions for achirality.