

Effect of Silver Nanoparticles in Temperature Polarization of Distillation Membranes for Desalination Technologies

Authors : Lopez J., Mehrvar M., Quinones E., Suarez A., Romero C.

Abstract : Membrane Distillation is an emerging technology that uses thermal and membrane steps for the desalination process to get drinking water. In this study, silver nanoparticles (AgNP) were deposited by dip-coating process over Polyvinylidene Fluoride, Fiberglass hydrophilic, and Polytetrafluoroethylene hydrophobic commercial membranes as substrate. Membranes were characterized and used in a Vacuum Membrane Distillation cell under Ultraviolet light with sea salt feed solution. The presence of AgNP increases the absorption of energy on the membrane, which improves the transmembrane flux.

Keywords : silver nanoparticles, membrane distillation, desalination technologies, heat deliver

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