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Experimental validation and enhancement of some solar still performance correlations

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ABSTRACT

Performance correlations for a basin-type solar still were developed from research data reported in the literature. Among these were correlations that show the effect on productivity of brine depth, cover tilt angle and dye. The aim of this paper is to validate and enhance these correlations experimentally. The root mean square (R^2) value is used as the criterion to measure such enhancement. The R^2 value is increased from 0.832 to 0.865 for the brine depth correlation, from 0.734 to 0.793 for the tilt angle correlation and from 0.833 to 0.904 for the effect of dye correlation.

Keywords: Desalination; Correlations; Performance; Solar still

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