

Thermodynamic Analysis of Zeotropic Mixture Used in Low Temperature Solar Rankine Cycle with Ejector for Power Generation

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Abstract : The objective of this work is to present a thermodynamic analysis of low temperature solar Rankine cycle with ejector for power generation using zeotropic mixtures. Based on theoretical calculation, effects of zeotropic mixtures compositions on the performance of solar Rankine cycle with ejector are discussed and compared with corresponding pure fluids. Variations of net power output, thermal efficiency were calculating with changing evaporation temperature. The ejector coefficient had analyzed as independent variable. The result show that (R245fa/R152a) has a higher thermal efficiency than using pure fluids.

Keywords : zeotropic mixture, thermodynamic analysis, ejector, low-temperature solar rankine cycle

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