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Applying Different Working Fluids in a Combined Power and Ejector Refrigeration Cycle with Low Temperature Heat Sources

Authors : Samad Jafarmadar, Amin Habibzadeh

Abstract : A power and cooling cycle, which combines the organic Rankine cycle and the ejector refrigeration cycle supplied by waste heat energy sources, is discussed in this paper. 13 working fluids including wet, dry, and isentropic fluids are studied in order to find their performances on the combined cycle. Various operating conditions’ effects on the proposed cycle are examined by fixing power/refrigeration ratio. According to the results, dry and isentropic fluids have better performance compared with wet fluids.

Keywords : combined power and refrigeration cycle, low temperature heat sources, organic rankine cycle, working fluids
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