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Yuqi Shi, Fei Li, Daliang Hong, Qin Wang, Guangming Chen

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**Experimental Study of a New Ejector-absorption Refrigeration Cycle Driven by  
Multi-heat sources**

*Yuqi Shi<sup>a</sup>, Fei Li<sup>b</sup>, Daliang Hong<sup>c</sup>, Qin Wang<sup>a</sup>, Guangming Chen<sup>a\*</sup>*

*<sup>a</sup> Institute of Refrigeration and Cryogenics Zhejiang University, Key Laboratory of  
Refrigeration and Cryogenic Technology of Zhejiang Province, Hangzhou, China,*

*gmchen@zju.edu.cn*

*<sup>b</sup> Beijing University of Posts and Telecommunications, Beijing, China*

*<sup>c</sup> China Electronics Technology Group Corporation No.38 Research Institute, Hefei, China*

**Abstract:**

This paper proposes a new ejector-absorption refrigeration cycle driven by two heat sources at different temperature levels. The cycle uses the exergy of steam from a high-pressure generator and entrains the steam out of a low-pressure generator. The quantity of the steam that comes out of the low-pressure generator for the new cycle is greater than that of a conventional double-effect cycle, which means that more low-temperature-level heat, such as non-focused solar thermal heat, can be used. Therefore, the heat required to input into the system and the temperature level required to drive the cycle declines. In this study, water-lithium bromide as the working pair and a hot air temperature level ranging from 185 °C to 215 °C is used as the high level driving heat source, while the hot water heated by a solar energy collector is the low level driving heat source. In some conditions of the new cycle's COP, 0.95 can be achieved for refrigeration, which is about 20% higher than that of the single-effect cycle. Besides this, the proposed chiller requires lower driven temperature than that of a conventional double-effect cycle.

**Keywords:**

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