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Performance investigation on refrigeration and air conditioning systems with multi-evaporator

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Highlights

- Performance chart is generated and validated for RAC with multi-evaporator.
- Performance chart of RAC is the superimposition of those of IDUs and ODUs.
- Performance of RAC at variable indoor air temperatures is demonstrated.
- Performance of RAC at variable indoor air volume is demonstrated.
- Performance of RAC with variable capacity IDUs is demonstrated.

Abstract: Refrigeration and air conditioning (RAC) system Multi-evaporator structures are popularly applied in for efficient temperature and humidity control of multi-zone in underground buildings, light commercial and residential buildings, cold stores, et al, which can also attract and/or release heat from and/or to renewable sources. The increase on the system complexity makes it difficult to analyze the performance and to optimize its design and control. In this paper, a novel method,

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