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Theoretical analysis of liquefaction for liquid air energy storage

As a promising large scale energy storage system, the liquid air energy storage (LAES) has advantages like high energy density and no geographical limitation. This paper describes the liquefaction process for LAES and conducts the theoretical analysis of thermodynamic characteristics to investigate the performance of LAES system. Comparative analysis of the liquefaction process is studied between the conventional air separation system and liquid air energy storage. The results can be used to improve and design the LAES cyclic process.

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