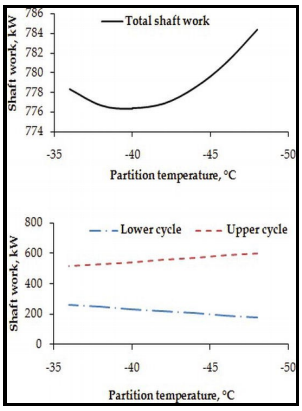
# Development of an alternative refrigeration cycle.

## The Author] - REFRIGERATION

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**Development of an alternative refrigeration cycle, International Journal of Energy Research**

The cycle is compared, both theoretically and practically, with the standard vapour compression cycle.

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Molecular simulation of the Joule—Thomson inversion curve of carbon dioxide. R1234ze E is considered as the prospective candidate alternative to conventional R134a for car air conditioners, while the isomers R1234ze Z and R1233zd E are anticipated to be the low-GWP alternative to R245fa used in industrial high-temperature heat pumps and organic Rankine cycles.

**Alternative Refrigerant**

For residential and commercial air conditioning equipment with its much lower leak rates the indirect effect is the main contributor of global warming, with the exact amount of global warming being determined by the percentage of power being generated by coal, oil and natural gas versus renewable and nuclear power generation.

**REFRIGERATION**

The 2 point higher aero efficiencies at equivalent tip Mach numbers shown in Figure 4 will result in a correspondingly higher head factor for equal tip Mach number lines on the compressor map, as shown in Figure 5. The majority of these fall into two categories, hydrofluorocarbons HDCs which contain no chlorine and have zero ozone depletion potential and hydrochlorofluorocarbons HCFCs , which do contain chlorine, but the addition of hydrogen to the CFC structure allows virtually all the chlorine to be dispersed in the lower atmosphere before it can reach the ozone layer.

**Development of a Steam Jet Refrigeration Cycle for the Actual Application Driven by Low Grade Thermal Energy**

Refrigeration and air conditioning technology. Zhang Y, Chen J, He J, Wu C.

**REFRIGERATION**

The characteristics of refrigeration centrifugal compressors mainly depend on refrigerant normal boiling temperature, molecular mass, and specific cooling capacity specific compressor displacement. The required pressure ratio for a given temperature lift is lower for refrigerants with lower normal boiling temperature. A real refrigerator or reversed heat engine will have a COP less than that of the ideal Carnot Cycle engine as given by the above equation.

**Alternative Refrigerant**

The high pressure liquid is then run through an expansion valve to create a pressure drop, which greatly reduces the temperature of the refrigerant. Assuming an 80% fluid efficiency this would mean a reduction of the 20% fluid loss by 10.

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