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7. Brief account of your research interests with special focus on Nano Science and Technology (strictly within 300 words):

Published papers in International Journals

1. **Venkataramana Murthy, V.P.**, Senthil Kumar, P., “The use of TiO₂ nanoparticles to reduce refrigerator ir-reversibility”, **Energy Conversion and Management**, Vol.59, pp.122–132, 2012. (**Elsevier**)
2. **Venkataramana Murthy, V.P.**, Senthil Kumar, P., “Exergy analysis of hydrocarbons mixture refrigerants R436A and R436B as a drop in replacement for R134a with TiO₂ nanoparticles”, **International Journal of Exergy**, (Accepted), 2012. (**Inderscience**)

3. Venkataramana Murthy, V.P., Senthil Kumar, P., “Exergy efficiency and ir-reversibility comparison of R22, R134a, R290 and R407C to replace R22 in an air conditioning system”, **Journal of Mechanical Science and Technology** (Accepted), 2012. (Springer)

4. Venkataramana Murthy, V.P., Senthil Kumar, P., “Thermal model and experimental validation of vapour compression refrigeration system with rotary compressor”, **European Journal of Scientific Research**, Vol.78, No. 2, 168-172, 2012. (European)

Patents applied

1. The use of TiO₂ nanoparticles in the reciprocating compressor lubricant to decrease the total ir-reversibility of vapour compression refrigeration system (3391/CHE/2012).

2. The use of TiO₂ nanoparticles in the reciprocating compressor lubricant to increase the exergy efficiency of vapour compression refrigeration system (3392/CHE/2012).

3. The use of TiO₂ nanoparticles in the rotary compressor lubricant to decrease the total ir-reversibility of vapour compression refrigeration system (3388/CHE/2012).

4. The use of TiO₂ nanoparticles in the rotary compressor lubricant to increase the exergy efficiency of vapour compression refrigeration system (3389/CHE/2012).

5. Enhancement of Pressure In Refrigerator's Compressor using nanolubricants (3390/CHE/2012).

8. Keywords related to your research interests: Alternate refrigerant,

Nanolubricant,

Vapour compression refrigeration system,

Ozone depletion potential,

Global warming potential

Coefficient of performance

Total ir-reversibility,

Exergy efficiency.