

Development of sorption heat transformers and thermal energy storage systems

Status: Available

Group Members:

Sponsor(s):

Supervisor(s): Dr. Majid Bahrami, PhD, P.Eng., Professor, Mechatronic Systems Engineering

Project Description

Heating and cooling of residential buildings account for 15% of the total energy use in Canada and produce 11% of the nation's greenhouse gas (GHG) emissions. Secure decarbonization can be achieved only by a great mix of technologies. In this context, sorption heat transformers (SHTs) have shown enormous potential for cooling, heat pumping, low-grade heat upgrading, and thermal energy storage. SHT allows for thermal (heat and/or cold) energy storage with minimal loss to the ambient.

- Good communication skills (oral and written),
- General knowledge of Thermodynamics, Fluid Mechanics and Heat Transfer,
- General knowledge of Control systems,
- General knowledge of SolidWorks,
- General knowledge of MATLAB,
- General knowledge of LabVIEW,

Asset:

- Machine shop skills/experience