

Battery Thermal Management System (BTMS)

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Program: Mechanical Engineering

Level of studies: Ph. D. Student

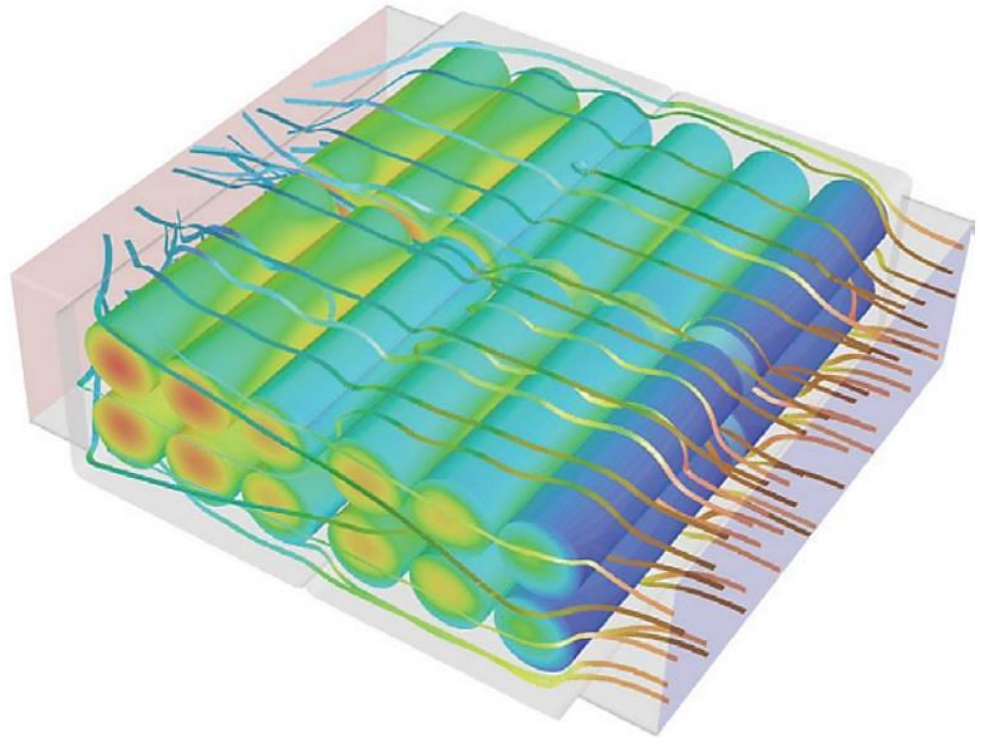
Presentation Date: **April 30, 2020**

Introduction

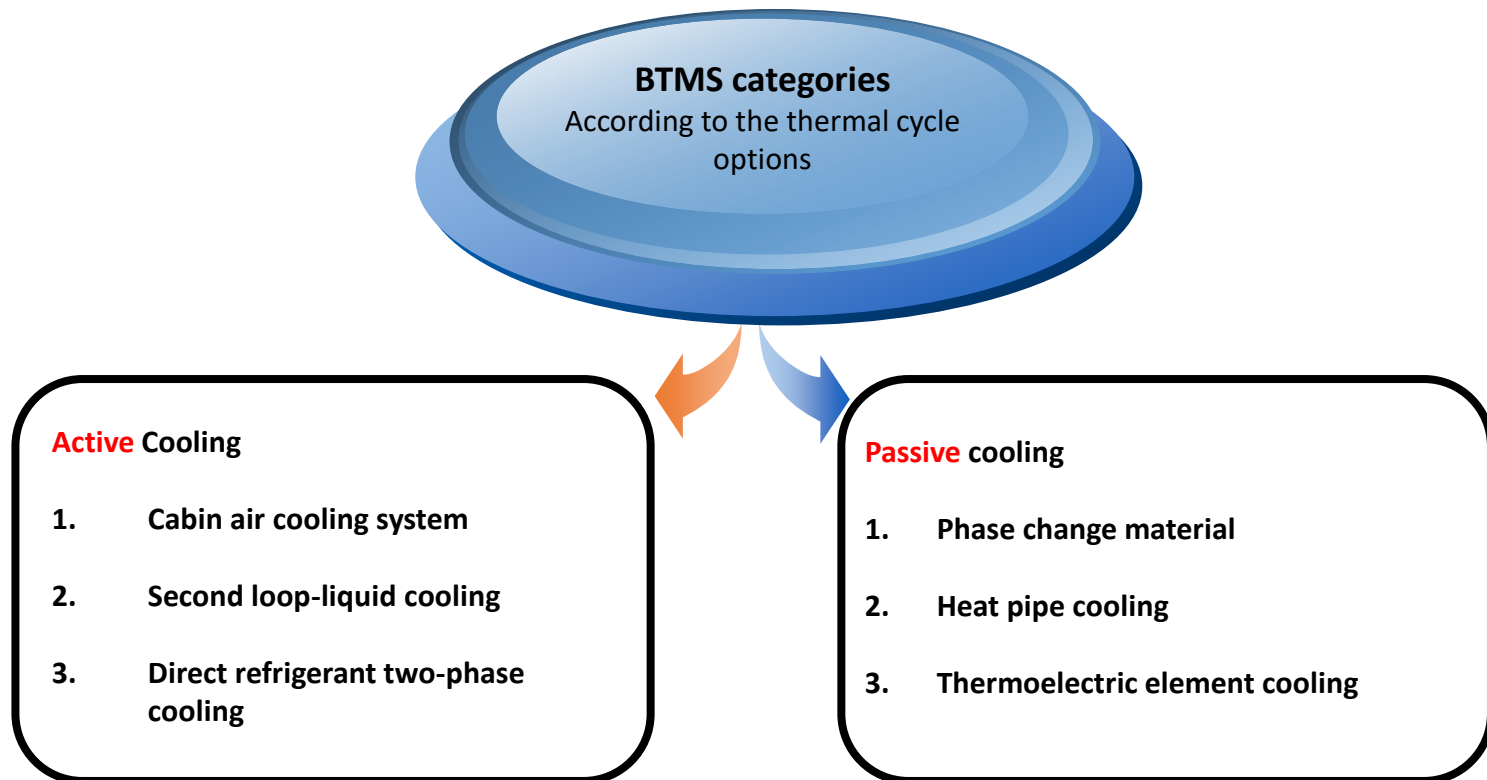


Purpose of BTMS

- ❖ Prevent from aging
- ❖ Increasing the lifespan

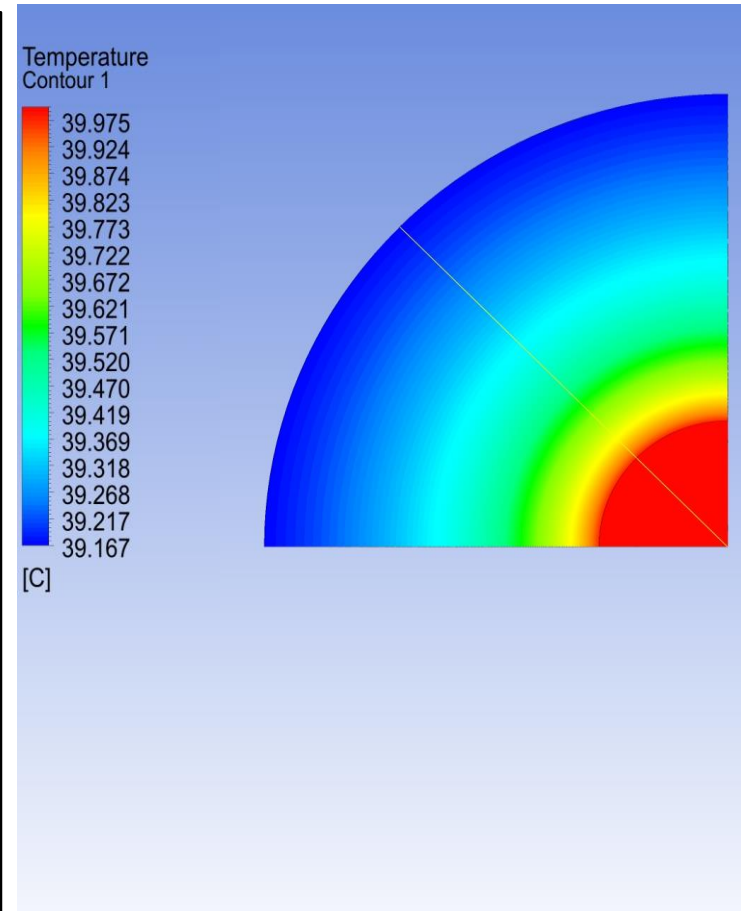


Purpose of BTMS



Project Description

- Battery Thermal Management System.
- Modeling a passive cooling system. (Natural convection)
- Modeling a passive cooling system with PCM or other strategies.
- Analysis and evaluation of the cooling system numerically
- Analysis and evaluation the cooling system experimentally



Objective(s)

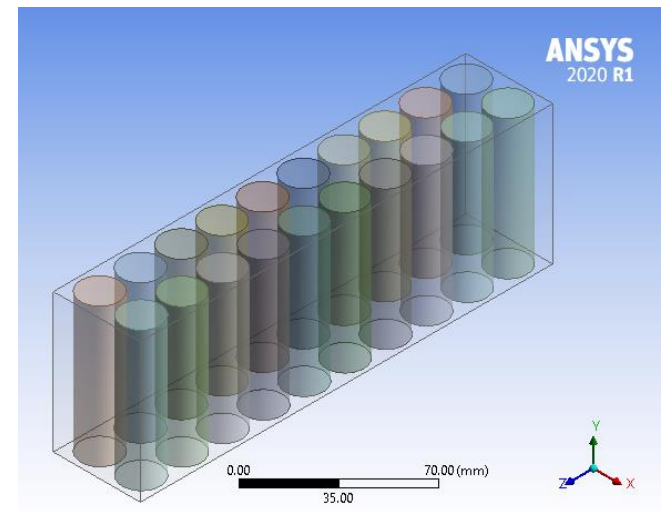
- Optimum design and manufacture of a cooling system
- Increase the life span of cells in battery pack

Tasks/Plan

- CAD Design
- CDF Modeling (in case of need)
- Analyze the modeling
- Implement Kalman filter
- Validate obtained results with experimental data

Expected Outcome & Deliverables

- Finding an efficient passive cooling method
- Using some advanced material with PCM
- At least two publications expected



Progress Report

- Literature review cooling systems
- CFD modeling
- MATLAB programming
- taking some action to start experiments



Thank You !