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Heat Transfer Properties of Molten Fluoride Salts

Why Liquid Salt?

Molten salts are good heat transport fluids for high-temperature solar and nuclear power generation

- Low pressure operations
- No explosive reactions with air or water
- Flows like water once molten
- Large heat capacity

What's so difficult?

High temperatures

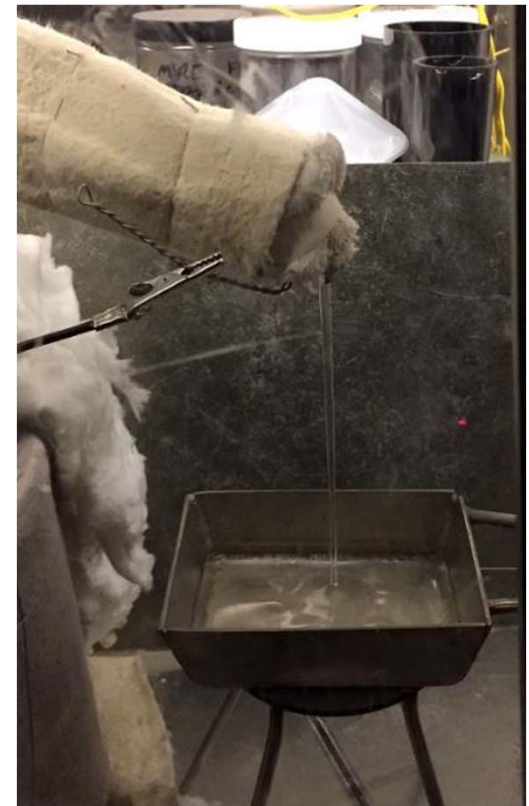
Salts can be corrosive

+ Don't like oxygen

= Heat transfer properties
can change over time



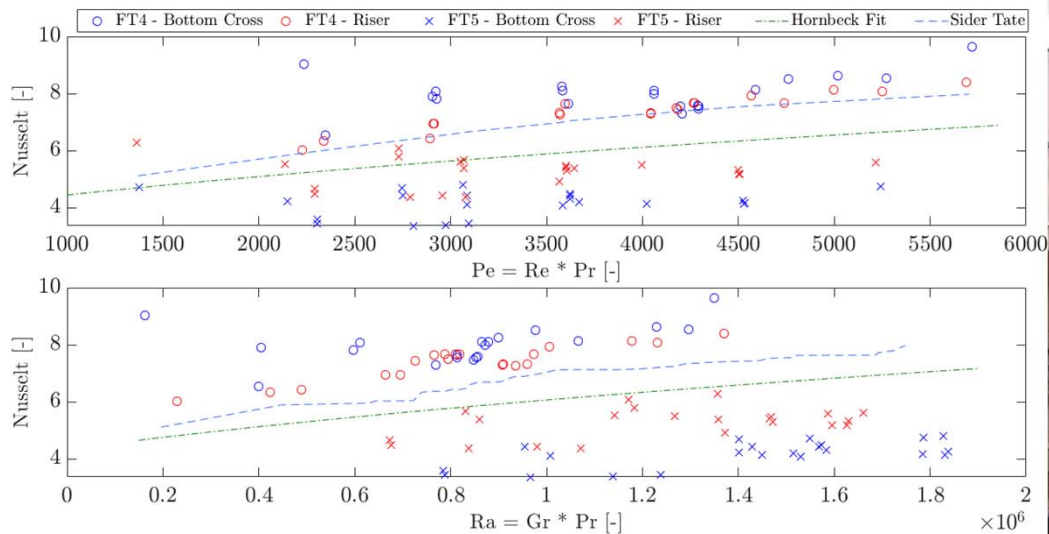
Pure Li_2BeF_4 (above) flows like water at 500°C (right)



Heat Transfer Studies

Using the salt Li_2BeF_4 (FLiBe) in a natural circulation loop

- Easy to build
- Easy to operate
- But hard to understand



Above: Heat transfer data shows an unexplained split

Right: The UW FLiBe Flow Loop

