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## ACCEPTED MANUSCRIPT

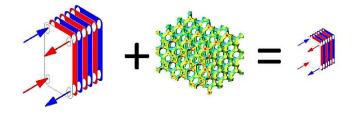
#### Thermal and Hydrodynamic Performance of Flow Boiling Through a Heat Exchanger Filled with Various Metallic Foam Samples.

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Graphical abstract



Big Heat Exchanger + Metallic Foam = Small Heat Exchanger

#### **Highlights:**

- The heat transfer is enhanced with factor varying between 1.3 and 3 copper using metallic foam.
- The insertion of metallic foam extends the boiling zone.
- The NiFeAlCr and Inconel metallic foam are not recommended for heat exchanger
- The copper metallic foam moves forward the critical heat flux.

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