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## **Solar Thermal Dish Storage System Project: A Novel Receiver Experiment Model**

Forrest Osborn

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Solar Thermal Dish Storage System Project: A Novel Receiver Experiment Model  
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Solar energy utilizes sunlight to generate electricity but inefficiencies in energy storage limits this technology. Transferring sunlight into thermal energy can contribute to solve this problem. The goal of this study was to determine feasibility of a heat exchanger to be used with an existing solar parabolic dish. For this purpose, a heat gun was used to measure the thermal properties of a novel receiver design. This system was used to analyze different receiver configurations for a copper tube containing water as a heat transfer fluid. The inlet and outlet water temperatures and the effect of HTF flow rate were measured. A heat exchanger was constructed using HVAC parts, copper tubing, aluminum foil, and a ceramic pot. The results of an initial test demonstrate the ability of the system to heat water a few degrees. However, better setup or additional modifications to the heat exchanger would be necessary.