



University of Central Florida

Technology Available for Licensing

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Reduce Energy Consumption with High-Efficiency Air Conditioning

While current air conditioning systems are effective, higher efficiency cooling systems reduce energy usage and save electrical cost. This new cooling system from researchers at the University of Central Florida can improve cooling efficiency by 20-50%, or even greater in dry climates.

Other efficiency add-ons like ground source heat pumps involve incremental costs of at least \$10,000, whereas researchers estimate that this add-on can be incorporated into a typical high efficiency air conditioning system for about \$2,000— while still improving performance by 30-40%.

Technical Details

The cooling system comprises a proprietary cardboard-drip cooling tower with wetting system components that include a water source, a sensor, a water pump, and a water collection tray. The refrigeration system includes a condenser configured to transfer heat from the refrigeration system to the surrounding atmosphere, an air inlet in fluid communication with the condenser, and an evaporative cooling medium between the condenser and the air inlet. When a portion of airflow from the atmosphere passes through the evaporative cooling medium, the temperature of the airflow passing into the condenser is reduced.

UCF Inventors

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Benefits

- Low cost for implementation
- Reduced energy use
- High-efficiency cooling

Applications

- Air conditioning

Tech Fields

Solar and Thermal

Keywords

air conditioning, evaporative cooling, refrigeration

If you or your company are interested in this opportunity, Contact:

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