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Experimental Investigation of Solar Photovoltaic Operated Ice Thermal Storage Air-conditioning System

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Highlights

• Solar energy can be stored by ice in PV refrigeration field.

- $\overline{\eta}$, $\overline{\eta}_r$ and $\overline{\eta}_{rs}$ were 0.525, 0.7292 and 0.0690 in operation mode 1.
- $\overline{\eta}$, $\overline{\eta}_r$ and $\overline{\eta}_{rs}$ were 0.3377, 4.49 and 0.3875 in operation mode 2.
- Operation model 1 and 2 are more suitable for family and office, respectively.
- Battery bank can be completely replaced by ice to store solar energy.

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