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Performance evaluation of a photovoltaic thermal-compound thermoelectric ventilator system

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Highlights

- A novel Photovoltaic thermal-compound thermoelectric ventilator(PVT-TEV) system is proposed and investigated.
- The system as an exterior shading device not only can prevent the solar radiation into indoor space, but also can transfer solar energy into electrical power in summer.
- The system heat fresh air by an air-type PVT coupled with thermoelectric ventilator system to supply fresh air within buildings in winter.
- The average thermal efficiency of PVT-TEV is 26.7% and the average COP_h is 6.4 in winter sunny day.

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