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Title: Evaporatively-cooled window driven by solar chimney to improve energy efficiency and thermal comfort in dry desert climate

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**Highlights**

- Performance of an evaporatively-cooled window driven by solar chimney is studied in dry climate
- A system model was coupled to space CFD model to predict the window temperature and impact on comfort
- Significant drop in window temperature of 3 to 4 °C was achieved under Riyadh climate conditions.
- Overall thermal comfort improved with the use of the system with 10% energy savings at 14 h and 17 h
- Thermal comfort was 1.42 at 14h; 1.96 at 17 h (scale: very uncomfortable at -4 to very comfortable at +4)

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