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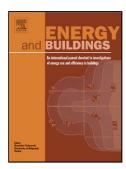
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## ACCEPTED MANUSCRIPT

#### **Title**

Indoor air quality and thermal comfort optimization in classrooms developing an automatic system for windows opening and closing.

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### **Highlights**

- Environmental parameters triggering users' actions on windows were assessed
- An automatic system for windows opening was developed to achieve IEQ in a classroom
- The system was driven by an adjusted version of Humphreys' adaptive algorithm
- The algorithm was adapted including CO<sub>2</sub> concentration and reducing the dead band
- The system guarantees low CO<sub>2</sub> levels, thermal comfort and users' satisfaction

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