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Intelligent Residential Buildings and the Behaviour of the Occupants

State of the Art

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Preface

Over the last years, intelligent buildings and the behaviour of the occupants have been the scope of many studies. The number of studies of these areas is growing, as they appear to be the next step to optimize the energy efficiency of the buildings.

The concept of intelligent building is associated with the creation of a management system that takes into account the requirements of its occupants in terms of thermal comfort and the activities of their daily life, maintaining a good indoor air quality and minimizing the energy consumption. Thus, there is a need to study and combine these issues to obtain the new generation of buildings. In commercial or office buildings, these systems are already in an intermediate stage of implementation. However, in the residential sector, it still does not have a significant implementation.

In mild climate regions, where the interactions of the occupants with the building mechanisms are the primary way to meet their comfort and ventilation requirements, the importance of occupant behaviour studies and its incorporation in the algorithms of the intelligent buildings become even more important.

The main benefit of the book is that it contains a state of the art of two areas that have to be treated together in order to emerge a new concept of buildings, that are more efficient, more comfortable and healthier.

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