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| Titolo                  | The Dynamics and Mechanism of Human Thermal Adaptation in Building Environment : A Glimpse to Adaptive Thermal Comfort in Buildings // by Maohui Luo  |
| Pubbl/distr/stampa      | Singapore : , : Springer Singapore : , : Imprint : Springer, , 2020   |
| ISBN                    | 981-15-1165-9   |
| Edizione                | [1st ed. 2020.]   |
| Descrizione fisica      | 1 online resource (XVI, 160 p.)   |
| Collana                 | Springer Theses, Recognizing Outstanding Ph.D. Research, , 2190-5053  |
| Disciplina              | 690   |
| Soggetti                | Buildings—Design and construction<br>Building<br>Construction<br>Engineering, Architectural<br>Environmental monitoring<br>Interior architecture<br>Interiors<br>Sociophysics<br>Econophysics<br>Building Construction and Design<br>Monitoring/Environmental Analysis<br>Interior Architecture and Design<br>Data-driven Science, Modeling and Theory Building |
| Lingua di pubblicazione | Inglese   |
| Formato                 | Materiale a stampa  |
| Livello bibliografico   | Monografia  |
| Note generali           | "Doctoral thesis accepted by Tsinghua University, Beijing, China."  |
| Nota di contenuto       | Introduction -- The dynamics of thermal comfort expectation -- The dynamic process of thermal adaptation in buildings -- Indoor climate and thermal physiological acclimization -- Psychological aspect of thermal comfort adaptation -- Development of adaptive heat balance model -- Conclusion and future prospect.  |
| Sommario/riassunto      | This book focuses on human adaptive thermal comfort in the building environment and the balance between reducing building air conditioning energy and improving occupants' thermal comfort. It  |

examines the mechanism of human thermal adaptation using a newly developed adaptive heat balance model, and presents pioneering findings based on an online survey, real building investigation, climate chamber experiments, and theoretical models. The book investigates three critical issues related to human thermal adaptation: (i) the dynamics of human thermal adaptation in the building environment; (ii) the basic rules and effects of human physiological acclimatization and psychological adaptation; and (iii) a new, adaptive, heat balance model describing behavioral adjustment, physiological acclimatization, psychological adaptation, and physical improvement effects. Providing the basis for establishing a more reasonable adaptive thermal comfort model, the book is a valuable reference resource for anyone interested in future building thermal environment evaluation criteria.

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