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Sommario/riassunto

This book discusses the issues relevant to the evaluation of the thermal energy balance of buildings in southern Europe and equips readers to carry out optimal building energy-performance assessments taking into account the peculiarities of the climatic context. Evaluation of building energy performance in this region is complex, since the significant need for cooling means that the effect of thermal capacity, glazed surfaces and ventilation and shading strategies have to be carefully considered when determining the indoor operative temperatures. This is fully explained, and critical issues in the application of the commonly employed, simplified procedures and assumptions are identified. In addition to the theoretical analysis, there are case studies that explore the energy performances of a set of typical building typologies within the variability of the Italian climate, considered as representative of conditions in southern Europe. These descriptions will support energy consultants and other stakeholders in assessing building energy performances beyond the mere simplified standard assumptions. Furthermore, the numerous graphs and tables documenting data can be easily adopted to serve as design advice tools for both new constructions and retrofits.