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Nota di contenuto	Introduction -- The evolution of OCAC and its basic working principles -- OCAC for fuel conversion without CO2 capture -- OCAC technology in oxy-fuel combustion for carbon capture -- New concepts for OCAC in other applications -- Perspectives on future research -- Conclusions.
Sommario/riassunto	This open access book surveys the development of OCAC technology in the last decade for solid fuel conversion in fluidized beds. The scientific concerns, including combustion and emission characteristics, ash-related problems, OC aging, and so on, are summarized and analyzed. Beyond this, new concepts like OCAC with Oxy-PFBC, OCAC coupled with staged fuel conversion, OCAC in rotatory kilns and multi-functional OCAC are proposed, so as to promote the applications of OCAC to various fields in the future. Moreover, this book also outlines the perspectives for future research and development of OCAC. As an emerging technology, extensive studies and investigations are still

necessary to fill in the gap from the fundamental understanding of the technology to its industrial demonstrations. Nevertheless, we believe that this book provides novel insights for the readership of energy and combustion and stimulate meaningful follow-on research on OCAC technology.