

Multiphase Phenomena and CFD Modeling and Simulation in Materials Processes

Description: This volume contains proceedings dealing with the topics of multiphase phenomena in materials processing and computational fluid dynamics (CFD) modeling and simulation of engineering processes. This collection gathers papers from researchers and engineers involved in the modeling of multiscale and multiphase phenomena in material processing systems. Papers address gas-particle flows, liquid-liquid phase flows, bubbly driven flows, granular flows, liquid-solid flows, multiphase flows in external fields, multiscale heat and mass transfer, and microstructure formation in these multiphase systems. Papers also focus on the CFD modeling and simulation of various engineering processes, such as metal processes including casting, forging, welding, heat treating, and VAR/ESR/PAM/EBM remelting processes; coatings including PVD, CVD, and plasma-assisted EBM-PVD technologies; and other surface engineering processes including induction, laser, and EB thermal processing. The CFD modeling and simulation proceedings discuss applications of CFD to engineering processes and demonstrate how CFD could help scientists and engineers to better understand the fundamentals of engineering processes.

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Members of the Organizing Committee.

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