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This book reports on topics at the interface between mechanical and materials engineering, emphasizing aspects related to design, simulation, and manufacturing. It covers advanced methods in design engineering, applied to mechatronic systems, industrial equipment, turbines and drives. It reports on methods for improving the separation and prilling processes. It covers cutting-edge theoretical and experimental findings relating to material behavior, and materials, composites and coatings design. Further, it reports on advanced material treatments such as chemical-thermocycling, plasma deposition, and mechanical strengthening processes, among others. Based on the 6th International Conference on Design, Simulation, Manufacturing: The Innovation Exchange (DSMIE-2023), held on June 6–9, 2023, in High Tatras, Slovak Republic, this second volume of a 2-volume set provides academics and professionals with extensive information on trends and technologies, and challenges and practice-oriented experience in all the above-mentioned areas.
