



minerals



Special Issue Reprint

Design, Modeling, Optimization and Control of Flotation Process

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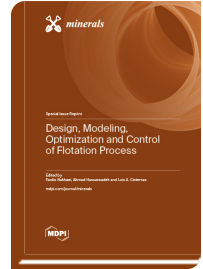
Fardis Nakhaei

Ahmad Hassanzadeh

Luis A. Cisternas

ISBN 978-3-7258-1396-4 (Hardback)

ISBN 978-3-7258-1395-7 (PDF)



The ultimate goal of a flotation process is to achieve the economically optimum combination of the desired mineral grade and recovery in the final concentrate from a feed of varying composition. The industrial operation of froth flotation faces many challenges, such as sudden decreases in the recovery and grade of recovered materials. The quality of the final concentrate determines the success of the downstream processes, and achieving optimum metallurgical performance requires proper characterization, optimization, and control of the process. The efficiency of a flotation circuit operation relies on several factors that are pertinent to mineral nature and structure (variability of ore feed, particle size, mineralogy, and morphology) and the type of instrumentation and operational parameters (design parameters, reagents, quality of process water, air flow rate, and solid content) used, which require both advanced theoretical and practical studies. Hence, new techniques in the fields of design, modeling, optimization, and control of flotation processes have attracted much attention.

This Special Issue is dedicated to the latest findings on methodologies, applications, and case studies regarding flotation to improve process efficiency, reduce energy consumption, and increase the sustainability of these processes. It provides a wide range of research and practical topics, including those related to design, simulation and instrumentation, and



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