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Special Issue Reprint

Advanced Blasting Technology for Mining

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This Special Issue, “Advanced Blasting Technology for Mining”, explores cutting-edge developments and new research directions in blasting techniques for both open-pit and underground mining. Blasting is widely regarded as the primary method for quarrying rock masses due to its cost-effectiveness and capacity to produce large volumes of well-fragmented rock in a relatively short time. However, the detonation process is accompanied by potential adverse effects, including blast-induced vibrations, fly-rock, and acoustic waves. Efforts to mitigate these impacts, along with initiatives aimed at achieving zero emissions, are driving the search for advanced solutions in blasting techniques. This Special Issue aims to address key topics such as innovative explosive compositions, optimized blasting designs, advanced drilling and blasting processes, blasting safety, and methods to minimize environmental impacts, including blast-induced vibrations and fume emissions, such as prediction algorithms.

In this Special Issue of *Applied Sciences*, we focused on innovative laboratory, numerical, and industrial research that has had a positive impact on the development of blasting in mining.

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