

Improvement of the Calciferous Minerals Floatability through the Application of High-Power Electromagnetic Pulses

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Abstract : The modification of structural and chemical properties of fluorite, scheelite and calcite under the impact of high-power electromagnetic pulses (HPEMP-treatment) were studied with the help of adsorption of acid-base indicators and atomic - force microscopy (AFM). The HPEMP-treatment during the space of 30 seconds resulted in the intensification of fluorite surface the electron-donating ability and acceptor properties of calcite and scheelite surfaces. High-power electromagnetic treatment of the single minerals resulted in the improvement of the calciferous minerals floatability. The rising of the scheelite recovery is 10 - 12%, fluorite - 5 - 6%, calcite - 7 - 8%.

Keywords : calcite, fluorite, scheelite, high power electromagnetic pulses, floatability

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