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Role of particle shape in the floatability of mineral particle: An overview of recent advances

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Abstract: Particle shape is an important factor that affects the floatability of mineral particle. However, it is difficult to investigate the dependence of particle shape on mineral flotation because the limited accuracy of shape characterization though various methods of shape characterization have been proposed in the literature. This review not only overviews the methods to characterize particle shape, but also highlights recent investigations into the role of particle shape in the floatability of various particles, such as gold, magnetite, chalcopyrite, pyrite, molybdenite, alumina, galena, sphalerite, muscovite, talc, quartz, glass beads, borosilicate glass, calcite, barite, plastic, ink and coal. Finally, the mechanism of particle shape affecting the floatability of mineral particle will be also discussed.

Keywords: Flotation; Particle Shape; Shape Characterization; Mechanism; Floatability

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