



Advanced Particle Simulation of Rice Whitening Processes

Rice whitening is a critical phase in rice processing, directly influencing the quality and yield of the final product. Given that Bühler's rice milling equipment contributes to an annual emission of 4 million tons of CO₂e globally, refining the whitening process holds immense potential for both social and environmental benefits. To enhance our comprehension of the dynamics involved, we have employed advanced Discrete Element Method (DEM) simulations, utilizing Rocky DEM software, to extensively explore rice flow patterns, breakage mechanisms, milling degree, and uniformity within a rice whitener. This work aims to provide a global understanding of the complex interactions between rice grains during the whitening process, which are pivotal for optimizing machine design and processing conditions.

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