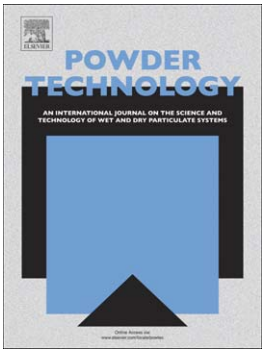

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ABSTRACT

The mixture and motion of fibrous particles of sugar cane bagasse were experimentally investigated in a rotating drum, a configuration frequently used for bioreactors in solid-state fermentation processes. The rotational velocity, filling degree and presence of an inner tube amidst the particles were the controlled variables. The image analysis technique was used to evaluate the radial and axial mixtures. The numbers of rotations used to achieve radial and axial homogeneities were obtained and the radial particle