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Calibrating the 8000M Ball Miller Using Anatase and Rutile Titania Nanoparticles

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Abstract content (Max 300 words)Formatting & Special chars

Titanium dioxide nanopowders were synthesized using the sol-gel method and dried at 100^oC. Portions of the powder were annealed at 300^oC and 800^oC to obtain the anatase and rutile phases of TiO₂ respectively. The samples were then ball-milled for various time periods ranging from 1 hour up to 14 hours using the stainless steel vial set. X-ray diffraction characterization technique was performed on the samples in order to determine the crystallite sizes. The sizes of the anatase samples were found to increase slightly as milling time increased. On the other hand, the reduction in the crystallite sizes of the rutile powders with increasing milling time were observed to follow a 3rd order polynomial trend. The results were used in constructing calibration functions for the 8000M ball miller.

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No

Level for award (Hons, MSc, PhD, N/A)?

Hons

Main supervisor (name and email) and his / her institution

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