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Using a Kibble balance to explain physics principles in education

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Using a Kibble balance to explain physics principles in education

In metrology, a Kibble balance is an instrument used by metrologists to realize the SI unit for mass. There are several physics principles used in the operation of this instrument – namely electromagnetism, classical mechanics, electrostatics, electricity, optics, materials science, and metrology. The basis of this investigation is on all these physics disciplines applied for the functionality of the Kibble balance. However, the National Metrology Institute of South Africa (NMISA) developed a miniature version of the Kibble balance, called a Mobile Kibble balance, which serves the same purpose but with less accuracy and precision. Detailed explanations for all the mechanisms involved in its operation are given. Moreover, light is shed on possible applications for this instrument in the education space for promoting physics while raising awareness about the existence and importance of metrology.

Apply to be considered for a student ; award (Yes / No)?

No

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

Hons

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