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Paper ID: 1570943352

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Paper Title: Enhancement of performance and operating system of Osteoporosis screening machine by optical technique and Artificial Intelligence

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## Abstract

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Optical Bone Densitometry has been introduced to the world as it serves screening task for osteoporosis which significantly save individual cost and time spent. In this report, we aim to diagnosis and analyze errors occur from this device in many perspectives included with determine acceptable range of percentage error, precision testing, device calibration, and effect of environmental light. Our findings show that there are some devices that have high percentage errors than acceptable value at 15% which environmental light significantly affect outcome, and it is suitable to select material for calibration which has similar properties to human bone as much as possible due to device 's principle.

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