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Introductory Physics Experiments Using the Wiimote WILLIAM SOMERS, FRANK ROONEY, ROMULO OCHOA, The College of New Jersey — The Wii, a video game console, is a very popular device with millions of units sold worldwide over the past two years. Although computationally it is not a powerful machine, to a physics educator its most important components can be its controllers. The Wiimote (or remote) controller contains three accelerometers, an infrared detector, and Bluetooth connectivity at a relatively low price. Thanks to available open source code, any PC with Bluetooth capability can detect the information sent out by the Wiimote. We have designed several experiments for introductory physics courses that make use of the accelerometers and Bluetooth connectivity. We have adapted the Wiimote to measure the: variable acceleration in simple harmonic motion, centripetal and tangential accelerations in circular motion, and the accelerations generated when students lift weights. We present the results of our experiments and compare them with those obtained when using motion and/or force sensors.

Romulo Ochoa
The College of New Jersey

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