

ABSTRACT ONLY**TEACHING ASTRONOMY BASIC CONCEPTS
USING SMARTPHONE SENSORS.**Martín Monteiro ¹ Arturo Martí²

Smartphones are computers that, in addition to fitting in the palm of the hand, have the additional advantage of including several sensors that, with the appropriate knowledge, allow these devices to be transformed into very useful and economy portable laboratories for doing and teaching science.

In recent years, dozens of experiments have been proposed to teach science and to engage students by allowing them to do science on their own (Monteiro 2022), and in particular as valuable tools to teach astronomy (Monteiro 2020). Some activities can be carried out in basic courses of astronomy at high school and university. Using the smartphone’s camera students can perform parallax stellar distance measurements on a scaled system to obtain the distance and the parallactic ellipse (Fitzgerald 2011). By using the light sensor of a smartphone, students are able to measure the light curve of a 3D printed scale asteroid to determine the period and shape factors (Ziffer 2019). Another useful activity with the same sensor aids to learn how to discover exoplanets by planetary transits in a scaled star system (Barrera-Garrido 2015).

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