

Abstract Submitted
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A linux-based lock-in amplifier BRYAN O’GORMAN, Harvard University/Physics Dept. — Small signal recovery based on phase sensitive detection techniques are key to many laboratory measurements. Ideally more students in the science classroom should be exposed to the utility of this so-called ‘lock-in’ detection method, however commercial instruments that perform this are generally expensive and not student friendly. In this talk I will describe a free-ware implementation of lock-in detection using rather generic PC soundcards on any PC running linux. Although limited to audio frequencies, we give examples of the use of this lock-in in an undergraduate laboratory, give a preliminary measurement of its typical noise floor, and describe our efforts and ideas to make the user interface student-friendly.

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