

Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Development of the Low-cost Analog-to-Digital Converter (for nuclear physics experiments) with PC sound card KENKOH SUGIHARA, Tohoku University — A low-cost ADC (Analogue-to-Digital Converter) with shaping embedded for undergraduate physics laboratory is developed using a home made circuit and a PC sound card. Even though an ADC is needed as an essential part of an experimental set up, commercially available ones are very expensive and are scarce for undergraduate laboratory experiments. The system that is developed from the present work is designed for a *gamma*-ray spectroscopy laboratory with NaI(Tl) counters, but not limited. For this purpose, the system performance is set to sampling rate of 1-kHz with 10-bit resolution using a typical PC sound card with 41-kHz or higher sampling rate and 16-bit resolution ADC with an addition of a shaping circuit. Details of the system and the status of development will be presented. Ping circuit and PC soundcard as typical PC sound card has 41.1kHz or heiger sampling rate and 16bit resolution ADCs. In the conference details of the system and the status of development will be presented.

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Date submitted: 31 Jul 2009

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