

43rd SYMPOSIUM ON THE SEARCH FOR EXTRATERRESTRIAL INTELLIGENCE (SETI) – The  
Next Steps (A4)  
SETI 1: SETI Science and Technology (1)

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A SMART HIGH RESOLUTION SPECTROMETER FOR LOW COST SETI PIGGY BACK  
ACTIVITY MODE.

**Abstract**

Seti activities can be faced in a smart piggy back mode at many of the existing operative radiotelesopes. The high resolution spectrum analysis required by the data processing, represents one of the more crucial and expensive block. Exploiting the state of the art of the nowadays technology, we are able to design and build a very low cost high resolution spectrometers. In this paper we present a Polyphase/CTM/FFT based high resolution system, implemented on a GPU installed on a standard Quad Core PC. A high speed and wide dynamic range A/D converter (12 bit) provides, along with the dynamic range of the analogue electronic, a high dynamic range system (about 70 dB) allowing it to operate in a noisy environment. Basically the operating bandwidth can be configured in a range of 1-100 MHz. A Python code software will be available to be transported on other similarly configured Seti systems.