

The home-built pulse nuclear magnetic resonance spectrometer with digital quadrature detection for ^3He research at low temperatures

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Abstract

The home-built pulse nuclear magnetic resonance spectrometer for ^3He research is described. The temperature range is 1.5 - 4.2 K, the frequency range is 3 - 20 MHz, the dead time is 10 μs at 10 MHz. The spectrometer software is based on programming language LabVIEW. The advantages of digital technique are described; particularly the implementation of digital quadrature detector. © Kazan Federal University (KFU).

Keywords

^3He , Digital detection, Low temperature, Nuclear magnetic resonance, Spectrometer