

# Pulse Shape Discrimination Using a Single Silicon Detector

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2004 REU: Cyclotron Institute, Texas A&M University

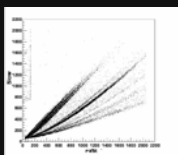
Mentor: Sherry Yennello



The SEE line at the cyclotron institute

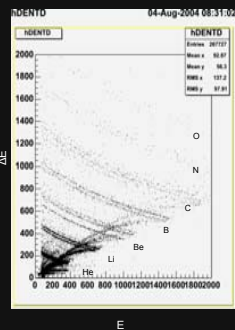
## Background:

Historically, pulse shape discrimination is associated with scintillation detectors.



This graph shows particle separation in scintillators. It was taken from NIMROD data, which uses CsI detectors.

Particle identification has also been achieved in Silicon  $\Delta E$ -E telescopes.



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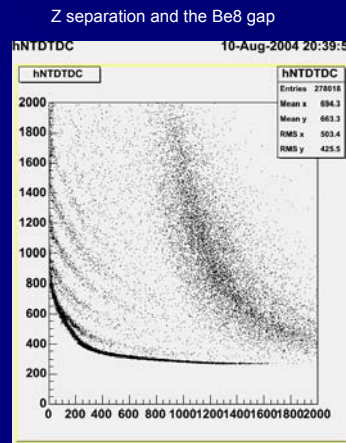
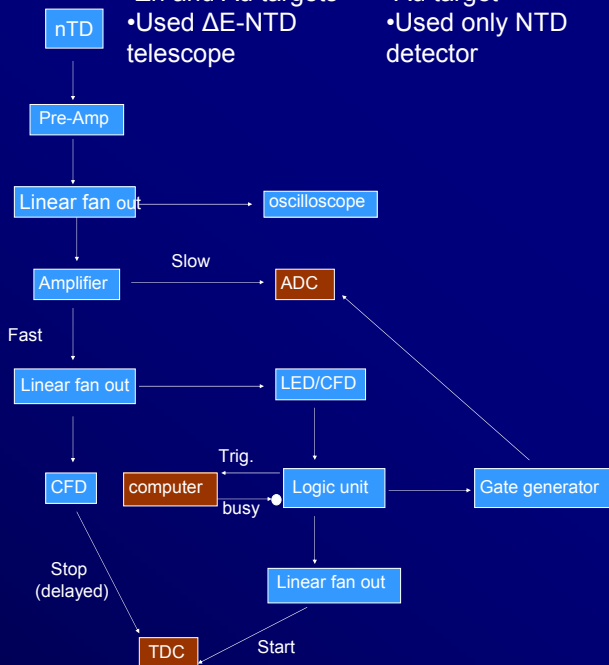
Goal: to extract both the time and energy from the pulses generated by silicon detectors with enough resolution to obtain isotope separation in plots of E vs. T

## Our Set Up:

July 3-5

July 26-27

- 40 MeV Argon beam
- Zn and Au targets
- Used  $\Delta E$ -NTD telescope
- 40 MeV Neon beam
- Au target
- Used only NTD detector



Our  $\Delta E$ -NTD telescope

## Trends:

