

A BaF₂ DETECTOR SYSTEM FOR (n, γ) CROSS SECTION MEASUREMENTS AT ORELA

K.H. Guber², R.R. Spencer², P.E. Koehler, and R.R. Winters³

We have implemented a 4π BaF₂ detector system at the Oak Ridge Electron Linear Accelerator (ORELA) for making (n, γ) measurements of interest to nuclear astrophysics. This new detector will allow us to work with smaller samples and to avoid potential problems with the pulse-height weighting technique used in other systems. Also, our first measurements with this system demonstrate that as a result of the excellent time-of-flight resolution at ORELA and the good pulse-height resolution of the detector, the background from sample-scattered neutrons will not be a serious problem in most cases.

1. Abstract of published paper: Nucl. Phys. A621, 254c (1997)
2. Oak Ridge National Laboratory, Tennessee
3. Denison University, Granville, Ohio