

APS, April, 2002. **The Hyball Charged-Particle Detector System for Radioactive Ion Beams**
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RADFORD, *Oak Ridge National Laboratory*. We describe a Hybrid-4p (HyBall) compact array
of charged-particle detectors being used with Radioactive Ion Beams for studies in Nuclear
Structure and Nuclear Reactions. It consists of two parts: a) up to 95-element CsI (T1)-crystals
coupled to large area photodiodes and b) a forward array of double sided silicon strip detectors.
The versatile array allows its main components to be used separately and to be reconfigured.
The HyBall array is housed in an aluminum target chamber with a forward funnel that
accommodates the microstrip-Si-detectors. When used with the CLARION array of clover Ge
detectors, the geometry of this chamber minimizes the exposure of the Ge- and CsI-detectors to
the gamma-rays and positrons resulting from the decay of the scattered radioactive ions. We will
show examples of the HyBall performance from recent RIB experiments.

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