



Recent Results from the BGS/FIONA at LBNL

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FIONA was designed to directly measure the mass-numbers of heavy ($Z > 92$) and superheavy isotopes ($Z > 103$). These isotopes are created in fusion-evaporation reactions, where it is not uncommon for neighboring isotopes to be created simultaneously. Mass-number measurements allow for the direct identification of individual isotopes from these reactions. FIONA has now been coupled to the Berkeley Gas-filled Separator at Lawrence Berkeley National Laboratory. FIONA has been successful in having performed the first-ever super heavy element mass-number measurements for isotopes of elements 113 and 115. More recently, FIONA has been used to study the properties of neutron-deficient mendelevium isotopes, including the direct-identification of the new isotope ^{244}Md . A similar campaign of measurements is now underway aiming to identify the new isotope ^{239}Es . FIONA has also proven to be a useful tool in studying the chemistry of heavy elements. An update on the status of these different measurements will be presented along with future experimental plans for FIONA.