APR09-2009-000381

Abstract for an Invited Paper for the APR09 Meeting of the American Physical Society

## John Wheeler, 1933 - 1959: Particles and Weapons KENNETH FORD, Germantown Academy

During the early part of his career, John Archibald Wheeler made an astonishing number of contributions to nuclear and particle physics, as well as to classical electrodynamics, often in collaboration with another physicist. He was also a major contributor to the Manhattan Project (in Chicago and Hanford rather than Los Alamos), and, following World War II, became an influential scientific cold warrior. His early achievements in physics include the calculated scattering of light by light (with Gregory Breit), the prediction of nuclear rotational states (with Edward Teller), the theory of fission (with Niels Bohr), action-at-a-distance electrodynamics (with Richard Feynman), the theory of positronium, the universal weak interaction (with Jayme Tiomno), and the proposed use of the muon as a nuclear probe particle. He gained modest fame as the person who identified xenon 135 as a reactor poison. His Project Matterhorn contributed significantly to the design of the H bomb, and his Project 137, which he had hoped would flower into a major defense lab, served as the precursor to the Jason group.