Possibility of tachyon monopoles detected in photographic emulsions

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Low-energy nuclear reaction experiments using photographic emulsions, including those by Urutskoev, *et.al* and Ivoilov, have shown unique particle tracks. Analysis of a sample population of these types of tracks suggests detection of magnetically charged particles with faster-than-light velocities. Particle kinetic energy was found from energy deposition and momentum was estimated from track curvature in magnetic fields. Measured values were plotted on a kinetic energy versus momentum graph and were found to fall in the v > c region. Track curvature was found to be parabolic, which is a signature for monopoles. Using the classical theory of tachyons, the plane of parabolic curvature suggests electrically charged tachyons detected as slower-than-light monopoles. Particle mass was computed, but is inconclusive. Further study is suggested to broaden this search.

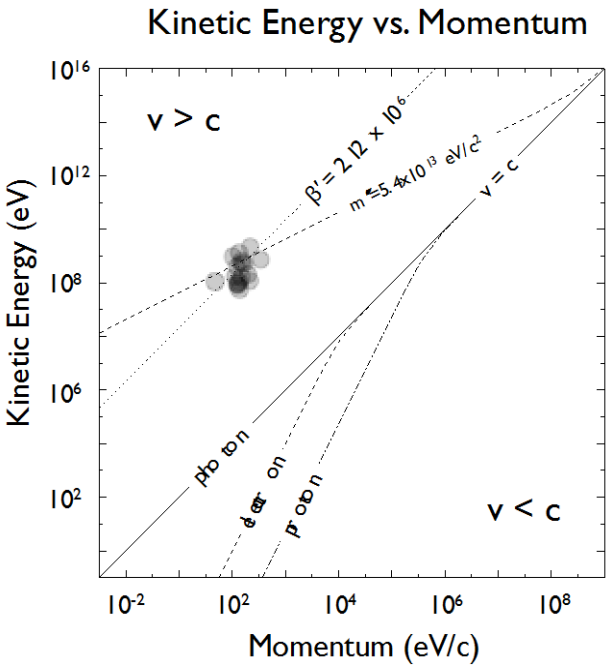

Fig. 1. Measured values for momentum and kinetic energy are clustered in the faster-than-light ($v > c$) area of the graph with a mass contour line at the peak mass value of 5.4×10^{13} eV/c^2 and a velocity contour line at $\beta' = 2.12 \times 10^6$.

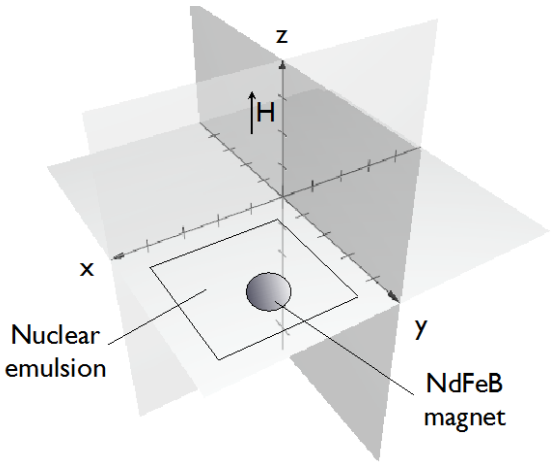

Fig 2. Experimental setup with applied magnetic field perpendicular to photographic emulsion.