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Stand-alone low energy measurements of light nuclei from PAMELA Time-of-Flight system.

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The PAMELA experiment, built to detect charged particles in cosmic rays, is in orbit since June 2006. The Time-of-Flight system, composed by 24 scintillation counters arranged in 3 double view planes, is a key element of the apparatus: it generates the general trigger, provides measurements of the velocity of the particles entering the detector and allows rejection of albedo particles. It operates also identification of light nuclei up to Oxygen by means of measurements of the ionizing energy loss of the particles inside the scintillation counters. The procedure applied to obtain the atomic number and the kinetic energy per nucleon of a traversing nucleus starting from measurements of, respectively, energy loss and velocity of the nucleus itself will be described in this work. As an application, a completely stand-alone measurement from ToF of the B/C ratio below few GeV will be shown.

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