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Compton-Getting Correction for STEREO SEPT

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The Solar Electron. and Proton Tclescope (SEPT) is one of four instruments of the Solar Energetic Partlcle (SEP) suite for the IMPACT investigation on board the (two STEREO (Solar TErrestrial RElations Observatory) spacecraft, launched end of 2006. SEPT consists of two dual double-ended magnetic/foil particle telescopes which separate and measure electrons in the energy range from 30 to 400 keV and ions (mainly protons and a-particles) from 70 keV to 6.5 MeV. SEPT-E is looking in the ecliptic plane and SEPT-NS perpendicular to this plane. This setup provides four looking directions for each spacecraft: one looking to the Sun along the nominal Parker spiral 45 degrees west from the spacecraft-Sun line, another looking along the Parker spiral but in the anti-solar direction, and two additional apertures looking North and South perpendicular to the ecliptic. Due to the fact that the velocity of several tens of keV ions is only by a factor of about 10 higher than the solar wind speed, it is expected that an isotropic pitch angle distribution in the solar wind frame becomes anisotropic in the spacecraft frame. Based on the work of Forman (1970) and Ipavich (1974), we developed a method to correct the SEPT ion data for this so-called Compton-Getting effect. Because SEPT cannot distinguish between protons and α-particles, this method is also designed to account for helium contribution. We will show that with this method the SEPT data can be transformed succesful1y to the solar wind frame and apply the method to selected particle events.