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Poster
The variation of inner zone proton flux, reaching a maximum following the Solar Cycle 23 and 24 solar minima which occurred in 2008 and 2019, has been compared using NOAA15 differential proton flux at energies 25, 50 and 100 MeV. The delay in the proton flux minimum in the South Atlantic Anomaly relative to the F10.7 maximum flux was determined as a function of energy and compared with previous studies (Qin et al., 2014; Li et al., 2020). Prior to 2015, integral flux from POES has been used to study long term variability going back to 1980, with the strongest flux maximum occurring for the particularly deep solar minimum in 2008 (Qin et al., 2014) evident in other measures of solar and solar wind energy input to geospace. A comparison with the 2019 solar minimum when high speed streams connected to coronal holes provided stronger driving to the magnetosphere extends prior studies of the solar cycle dependence of inner zone protons.
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Li, X., Xiang, Z., Zhang, K., Khoo, L., Zhao, H., Baker, D. N., & Temerin, M. A. (2020). New insights from long?term measurements of inner belt protons (10s of MeV) by SAMPEX, POES, Van Allen Probes, and simulation results. Journal of Geophysical Research: Space Physics,
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