The study adds significantly to the knowledge of nonlinearities in the radiation belt. The revised manuscript reads well and can be published as is. This reviewer has a three additional minor comments, but it would be up to authors whether they would like to consider them or not in.

1. Lines 56-60, if the authors would like to include an example from solar physics, they may want to cite Wing et al. (2018).

Wing, S., J. Johnson, and A. Vourlidas (2018), Information theoretic approach to discovering causalities in the solar cycle, *Ap J*, **854,** 85, https://doi.org/10.3847/1538-4357/aaa8e7

2. Line 359, according to Merriam Webster dictionary, “cannot” is more commonly used in formal writing than “can not”, but both are acceptable English usage.

3. Lines 363-364, introducing solar wind parameters can provide a more complete picture and help with the data interpretation. The statement about having solar wind velocity as a common driver is most likely correct. It likely applies to the dependence on the time scale of 2 days (~50 hr) for MeV electrons. For example, it may explain the positive linear and nonlinear correlation that peaks at time offset around 50 hr in Figures 6 or 7. This may be the time scale for the ULF waves to accelerate electrons to MeV energy range, enhancing the outer radiation belt (Paulikas and Blake, 1979; Reeves et al., 2011). (For 130 keV electrons, the time scale is shorter, e.g., the peaks in Figures 10 and 11 occur at a smaller time offset.) However, for a shorter time scale, in the order of several hours, the common driver may be solar wind density/dynamic pressure. For example, Figures 6c, 6d, 7c, and 7d show negative correlations with broad minima (peaks in the case of mutual information) near 0 hr (or within several hours from 0). An increase in solar wind density can increase solar wind dynamic pressure, which can compress the magnetosphere leading to radiation belt electron loss (magnetopause shadowing). The compression also leads to the growth of the ULF waves, which can redistribute the loss radially.