

CC1: ['Comment on egusphere-2026-2327'](#), Vanina Lanabere, 01 Jun 2026 [reply](#)

Main comment:

The analysis and conclusions in Fig. 2 is methodologically circular.

"Fig. 2 shows SPE analysis of green corona intensity (top panels) and solar wind variables (middle panels) keyed to arrivals of HSS/CIRs that were followed within 3 days by hurricane RI ≥ 30 kt/24h" (L117-119).

As a result, the figure cannot demonstrate that "RI of hurricanes often occur following arrivals of HSSs from coronal holes or impact of ICMEs" (L144-145), it only reflects the pre-selection criterion. To support the stated conclusion, the analysis must for example include all HSS/CIR arrivals (with and without RI) and all RI events (with and without preceding solar-wind activity).

Reply: *This may be misunderstood. The results of the SPE analysis in Fig. 1 by themselves already "indicate a tendency of RI of hurricanes to occur following HSS/CIRs or ICMEs." For more detail explaining Fig. 2 see our reply below.*

The SPE analysis in Fig. 14a suffers from the same circular-selection problem noted earlier. By compositing only those HSS/CIR arrivals that were already known to be associated with medicanes, the analysis cannot demonstrate that "most medicanes developed following HSS/CIR arrivals." This conclusion is built into the event selection itself. L368-370

Reply: *The SPE analysis in Fig. 13 by itself already "suggests that medicanes tend to develop following arrivals of HSSs." This is further confirmed in Fig. 14.*

General comments:

- I would recommend the authors to provide some general statistics of the 363 hurricane events. How many events of the list exceed the maximum rapid intensification (RI > 30 kt/24h)? How many occurred within n days from the ICME, HSS arrival?

Reply: *We did not make a "list" of 363 hurricane events. They are selected from the hurricane database (<http://www.nhc.noaa.gov/data/>) of "best tracks" of hurricanes. **All the 363 hurricanes exceeded RI > 30 kt/24h**, thus are used in the SPE analysis shown in Fig. 1. Fig 2c shows that 87 of them followed arrivals of major HSSs from coronal holes within 3 days. Fig. 3a shows that 64 of them followed minor to moderate HSSs ($300 < V_{MAX} < 500$ km/s) within 3 days. Fig. 3b shows that 57 of them followed impacts of ICMEs that caused geomagnetic storms ($Dst < -30$ nT) within 3 days. Therefore, 87+64+57 events represent 57% of 363 events. In other word, more than a half of these hurricane RI events occurred within 3 days from HSS or ICMEs. Of course, there are many, many more HSS/CIR and ICME events without a hurricane RI. We are NOT saying that such solar-wind activity is often followed by a hurricane RI. In Section 3 we conclude that "RIs of hurricanes often occur following arrivals of HSSs from coronal holes or impacts of ICMEs (Prikryl et al., 2019)".*

- Provide information of number of medicine events.

Reply: *Agree. This should be included with the revised manuscript.*

- The Richardson and Cane (2010) catalog provide a consistent identification of ICME. What about the HSS/CIR? What is the catalog or criteria used to identify such structure in the solar wind data?

Reply: See, Section 2, L80-82. This brief description can be expanded: Solar wind plasma parameters are used to identify co-rotating interaction regions (CIRs) at the leading edge of high-speed streams (HSSs). As CIRs pass by a spacecraft, the solar wind density increases to a maximum and then decreases within a narrow stream interface while the magnetic field magnitude peaks. This interface between the fast and slow solar wind defines arrivals of HSSs.

- Superposed epoch analysis of solar wind conditions should not only indicate the mean values. It also needs a measure of variability (e.g., quartiles, standard deviation). Without showing the spread, it is impossible to assess the statistical significance or robustness of the composited time series.

Reply: Representative standard deviation from the mean is shown in all cases of SPE analysis, unfortunately, you are right, it is not pointed out in the manuscript. This will have to be stated in the figure captions and text: The representative standard error bars for the mean values are shown.

- Provide information about the extended list of tropical cyclones with convective bursts.

Reply: Agree. This will be provided.