

We conducted an experiment with synthetic solar wind inputs where one of the parameters was varied in a square-wave form. The figure below shows the result of the experiment. IMF B_z was repeatedly switched between -5 nT and 1 nT with a period of 20 minute, 2 hours, and 6 hours in Day 1–2, 3–4, and 5–6 (the first, second, and third two days), respectively, while the solar wind speed was fixed at 400 km/s. Similarly, IMF B_z was switched between -5 nT and 1 nT with a period of 20 minute, 2 hours, and 6 hours in Day 7–8, 9–10, and 11–12, while the solar wind speed was constant at 800 km/s. From Day 13, IMF B_z was fixed at -5 nT. In Day 13–14, 15–16, and 17–18, the solar wind speed was switched between 400 km/s and 800 km/s with a period of 20 minute, 2 hours, and 6 hours, respectively. In Day 19–20, 21–22, and 23–24, the solar wind density was switched between 2 /cc and 8 /cc with a period of 20 minute, 2 hours, and 6 hours, respectively, while IMF B_z was 1 nT. Again, the solar wind density was switched between 2 /cc and 8 /cc with a period of 20 minute, 2 hours, and 6 hours in Day 25–26, 27–28, and 29–30 while IMF B_z was fixed at -5 nT.

