1 One step classical FD profile

1.1 February 18, 2011

Figure 1: FD event occurred on February 18, 2011. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{\text{Total}}$ and $B_X, B_Y, B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation.
2 Two step classical FD profile

2.1 January 22, 2004

Figure 2: FD event occurred on January 22, 2004. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{Total}$ and $B_X,B_Y,B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation.
Figure 3: FD event occurred on January 21, 2005. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{\text{Total}}$, $B_X$, $B_Y$, $B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation. Note that we have used IMF (4 minutes resolution) and solar wind data (64 seconds resolution) from ACE observatory due to unavailability of the data in OMNI database.
2.3 September 11, 2005

Figure 4: FD event occurred on September 11, 2005. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field (B_{Total} and B_x,B_y,B_z-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation.
2.4 December 14, 2006

Figure 5: FD event occurred on December 14, 2006. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2\textsuperscript{nd} and 3\textsuperscript{rd} panels show interplanetary magnetic field ($B_{Total}$ and $B_X, B_Y, B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation.
Figure 6: FD event occurred on April 11, 2001. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2\textsuperscript{nd} and 3\textsuperscript{rd} panels show interplanetary magnetic field ($B_{\text{Total}}$ and $B_X, B_Y, B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation.
3 Multi-step FD profile in MC (with 1 or 0 step in shock-sheath)

3.1 October 29, 2003

Figure 7: FD event occurred on October 29, 2003. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{\text{Total}}$ and $B_X, B_Y, B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation. Note that we have used IMF data (4 minutes resolution) and solar wind data (64 seconds resolution) from ACE database due to non-availability of the data on OMNI database.
3.2 May 15, 2005

Figure 8: FD event occurred on May 15, 2005. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{Total}$ and $B_X, B_Y, B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation.
Figure 9: FD event occurred on July 26, 2004. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{\text{total}}$ and $B_X$, $B_Y$, $B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation.
4 Multi-step FD profile in shock-sheath as well as in MC

4.1 July 15, 2000

Figure 10: FD event occurred on July 15, 2000. It has four panels, top most panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{\text{Total}}$ and $B_X, B_Y, B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation. Note that we have used IMF data (4 minutes resolution) and solar wind data (64 seconds resolution) from ACE database due to non-availability of the data on OMNI database.
4.2 November 06, 2001

Figure 11: FD event occurred on November 06, 2001. It has four panels, topmost panel shows temporal variation of normalized neutron flux with their respective band of rigidities. The arrow shows step decrease in CR. The 2nd and 3rd panels show interplanetary magnetic field ($B_{\text{Total}}$ and $B_X$, $B_Y$, $B_Z$-component) and solar wind speed data respectively. The bottom panel shows proton density and plasma temperature variation. Note that we have used IMF (4 minutes resolution) and solar wind data (12 minutes resolution) from ACE observatory due to unavailability of the data in OMNI database.