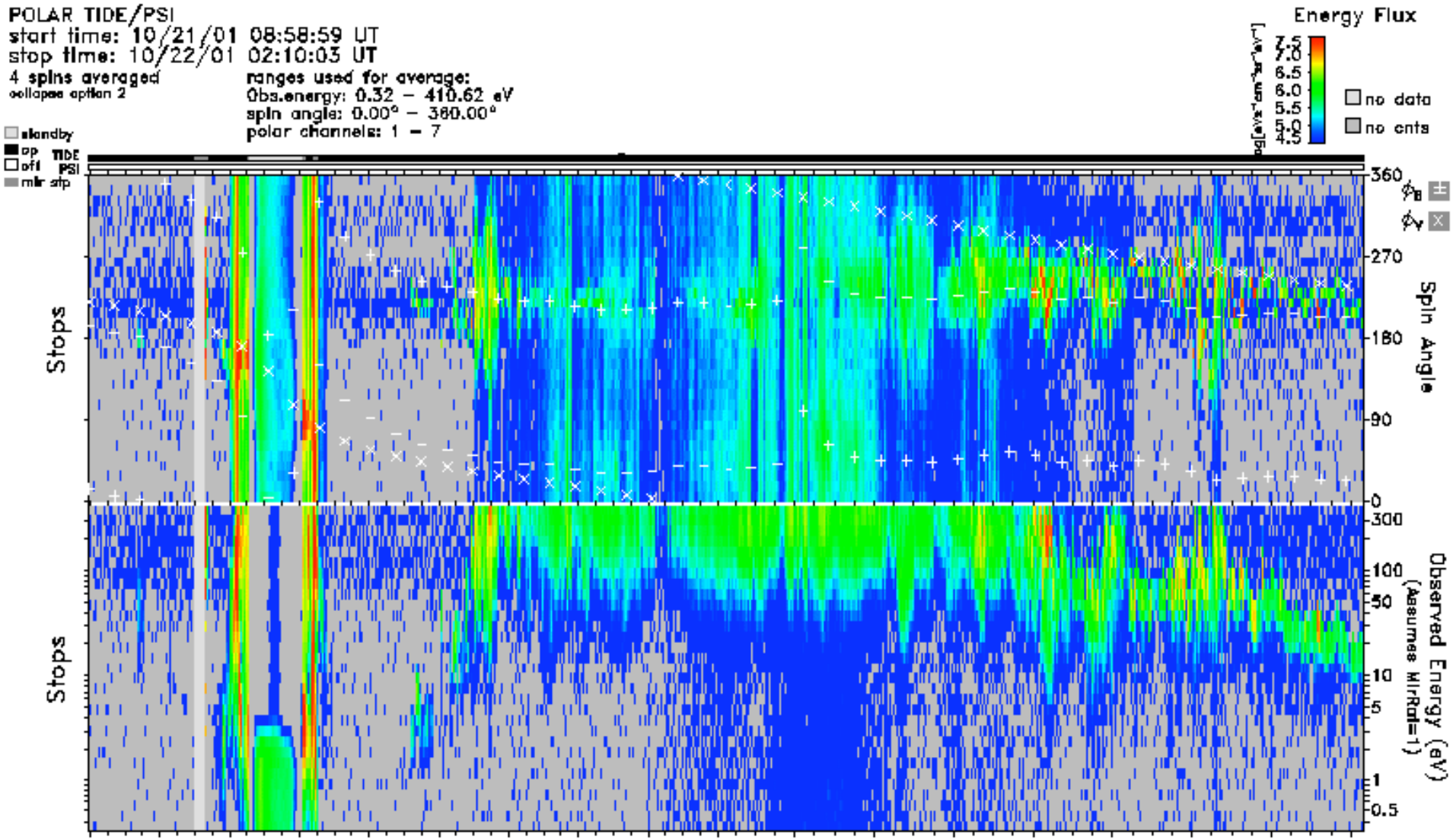
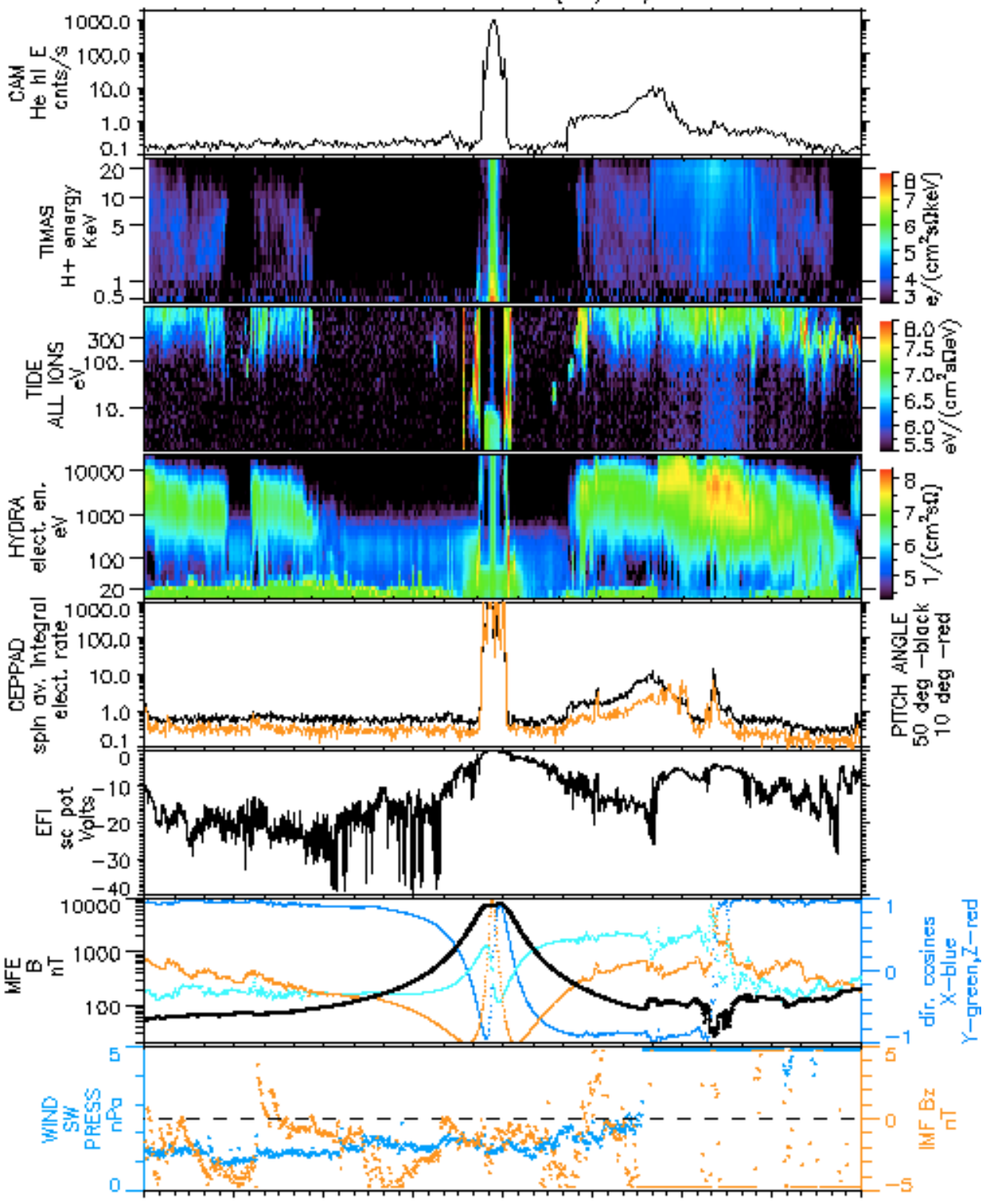
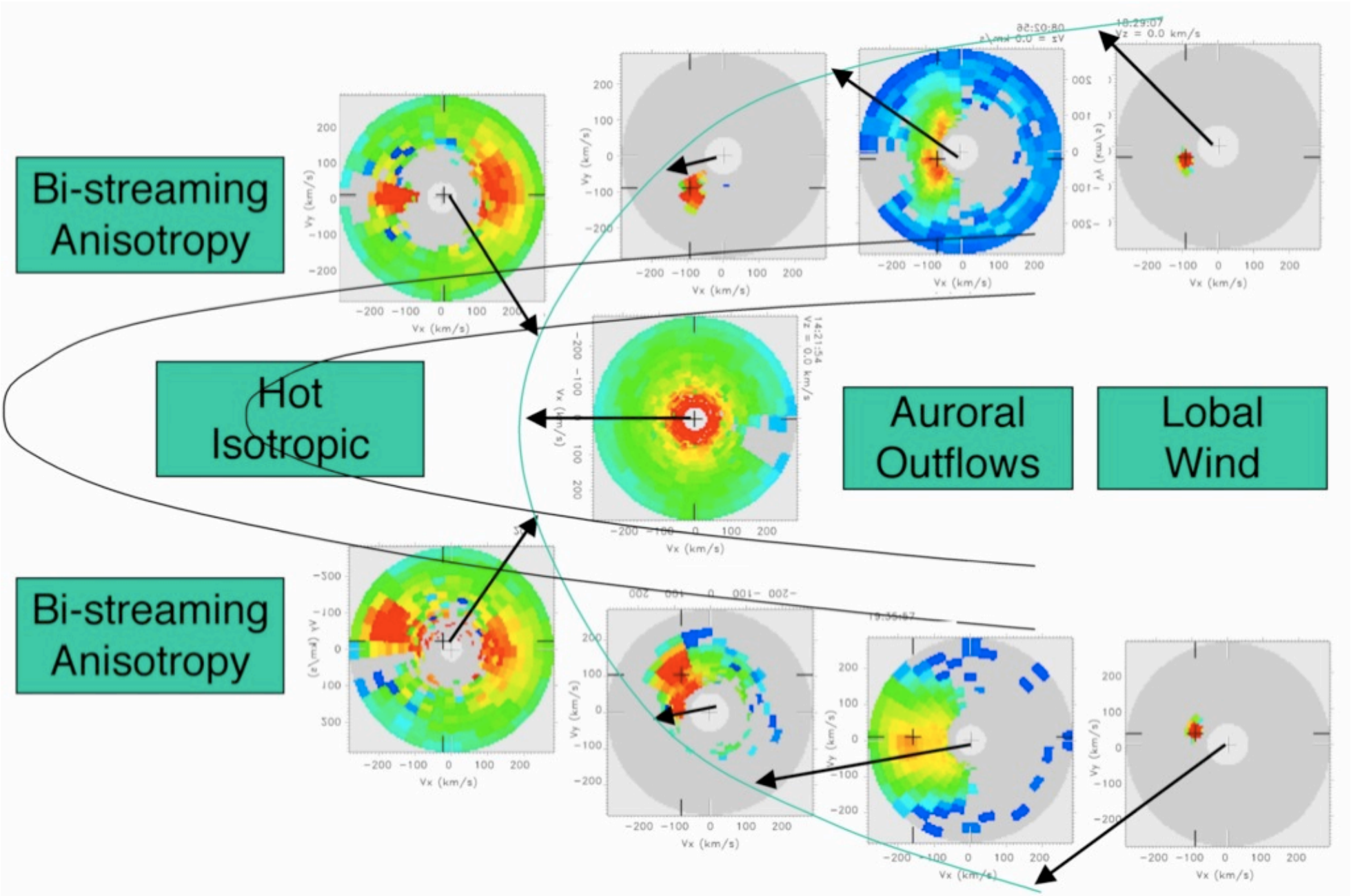

POLAR TIDE/PSI
start time: 10/21/01 08:58:59 UT
stop time: 10/22/01 02:10:03 UT
4 spins averaged
collapse option 2
ranges used for average:
Obs.energy: 0.32 – 410.62 eV
spin angle: 0.00° – 360.00°
polar channels: 1 – 7
standby
op TIDE
off PSI
mir stp
Energy Flux
no data
no cnts
Stops
Spin Angle
Observed Energy (eV)
(Assumes MirRat=1)
time 09:00 10:00 11:00 12:00 13:00 14:00 15:00 16:00 17:00 18:00 19:00 20:00 21:00 22:00 23:00 00:00 01:00 02:00 hr:mn
Re 5.9 4.4 2.5 1.7 3.7 5.3 6.6 7.6 8.3 8.9 9.3 9.5 9.6 9.5 9.2 8.8 8.1 7.3 Re
Lshell 16.1 27.3 61.4 4.6 19.3 10.0 9.0 8.9 8.9 9.1 9.3 9.6 10.1 10.8 11.7 12.9 14.6 17.4
mlt 22.3 22.2 10.8 10.4 22.2 22.2 22.1 22.1 22.2 22.2 22.3 22.4 22.5 22.6 22.7 22.7 22.8 22.9 hrs
mlat 53.0 66.5 78.3 −51.1 −64.2 −43.6 −31.8 −22.9 −15.2 −7.9 −0.9 6.1 13.1 20.0 27.1 34.2 41.5 49.5 degs
invlat 75.6 79.0 82.7 62.2 76.8 71.6 70.6 70.4 70.4 70.6 70.8 71.2 71.7 72.3 73.0 73.8 74.8 76.1 degs

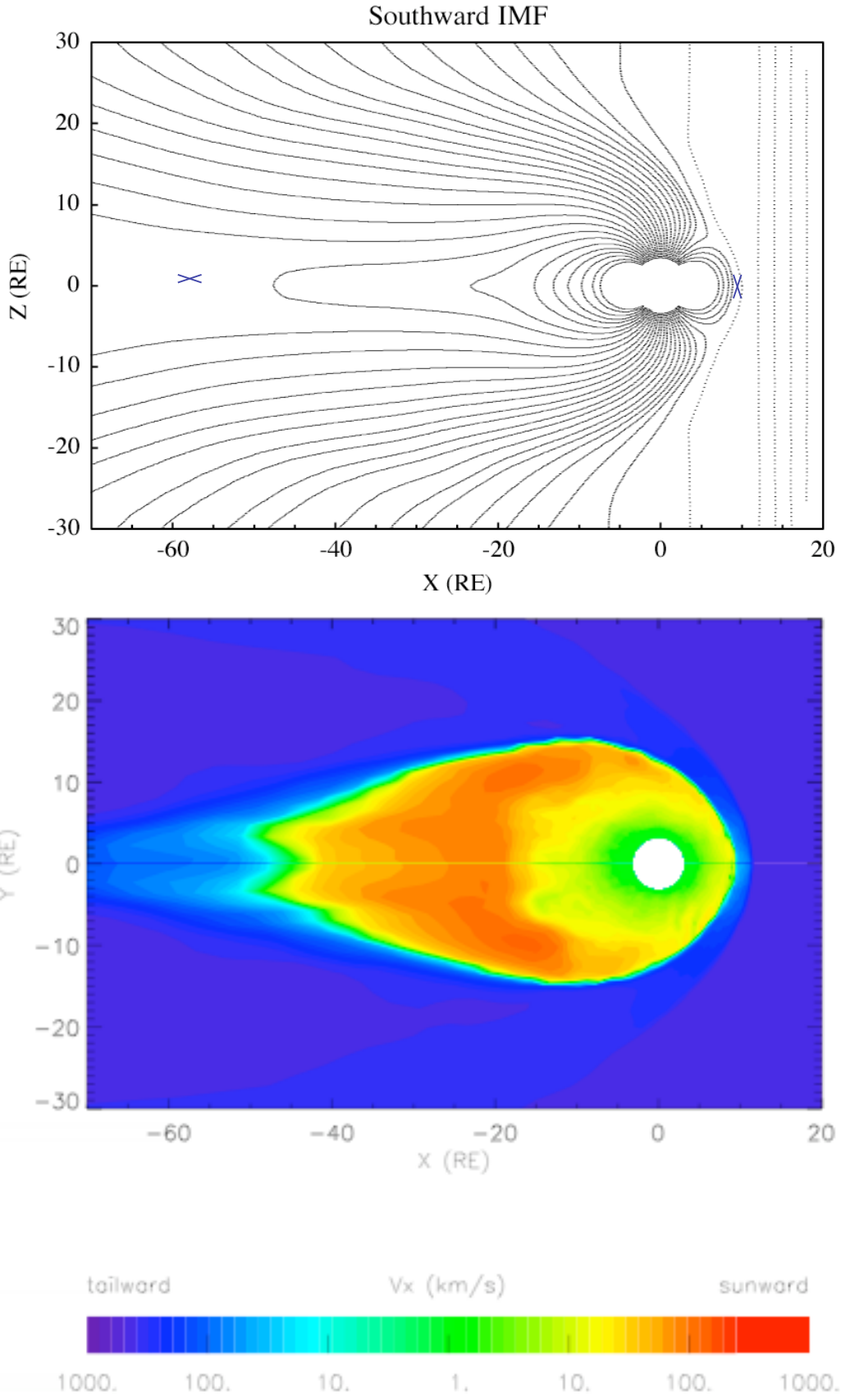
POLAR SURVEY 2001 294 (10/21) 00:00 UT

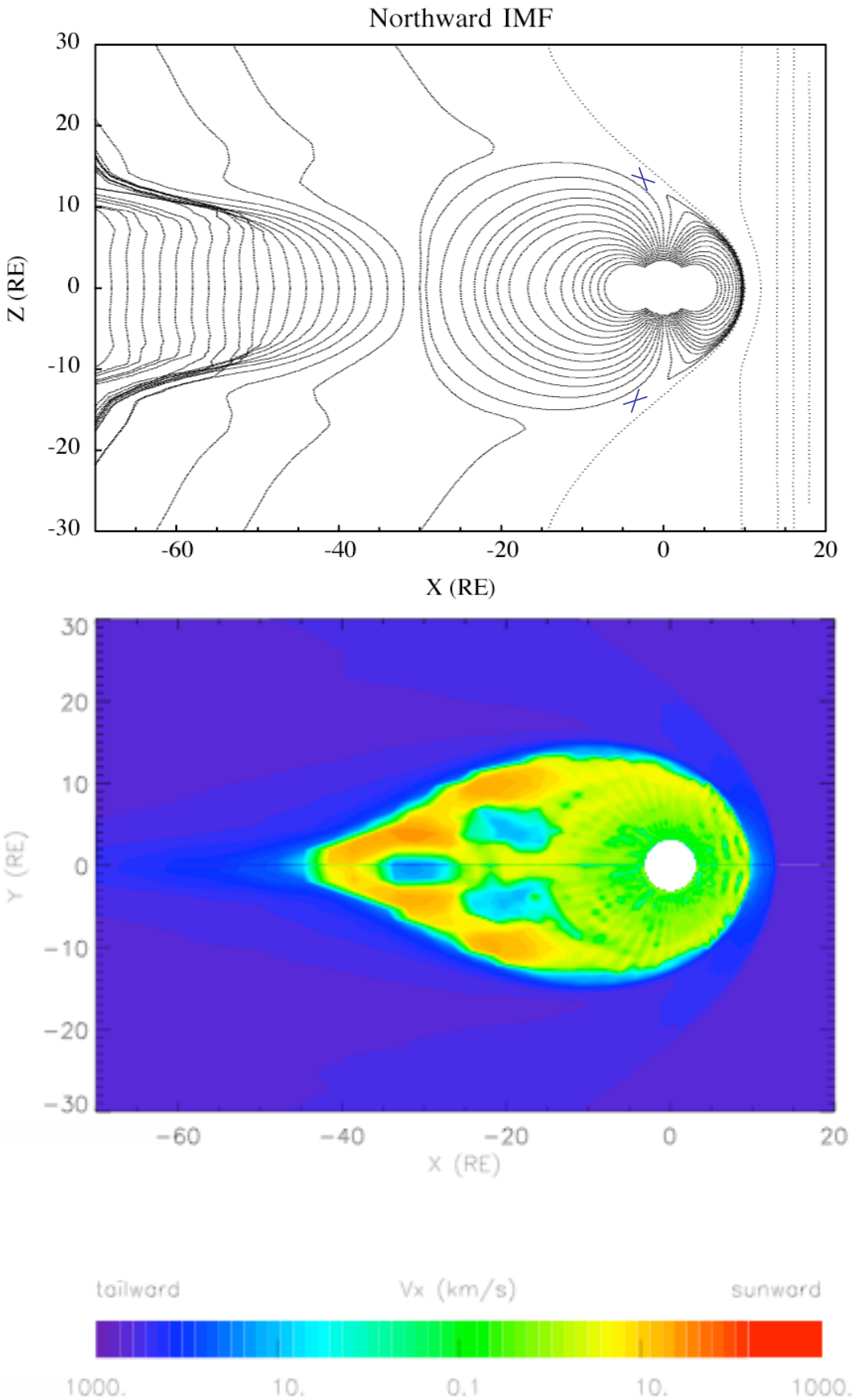


UT	0:00	3:00	6:00	9:00	12:00	15:00	18:00	21:00	0:00
MLAT	8.20	25.01	36.71	52.96	−51.06	−31.75	−7.95	13.05	34.06
MLT	22.29	22.46	22.45	22.30	10.44	22.14	22.24	22.49	22.74
L	9.3	11.7	13.4	16.1	4.6	9.0	9.1	10.1	12.9
R,RE	9.03	9.54	8.59	5.87	1.75	6.57	8.90	9.56	8.77

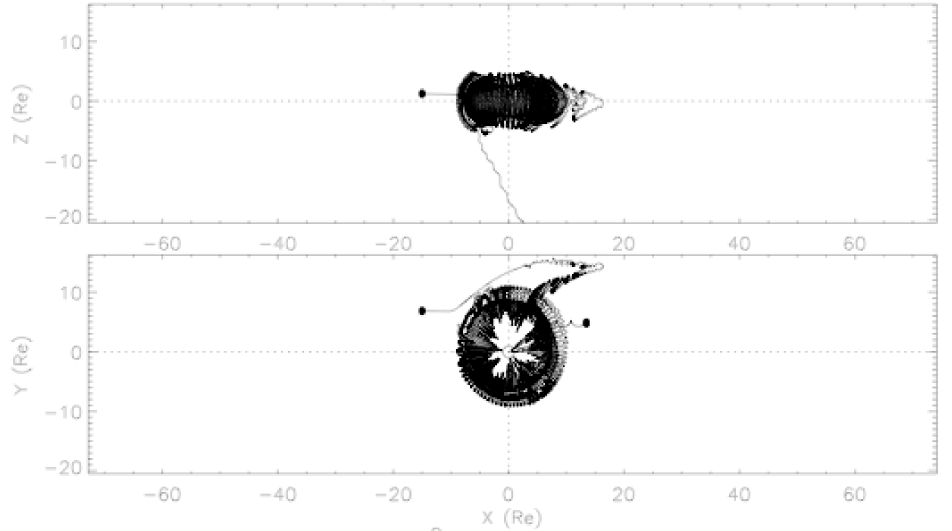
Wed May 21 03:44:15 2003

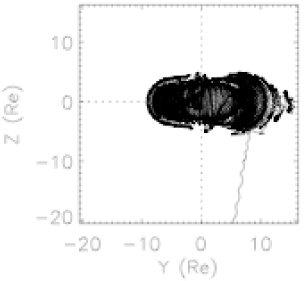

Bi-streaming Anisotropy
Hot Isotropic
Auroral Outflows
Lobal Wind
Bi-streaming Anisotropy
Vx (km/s)
Vy (km/s)

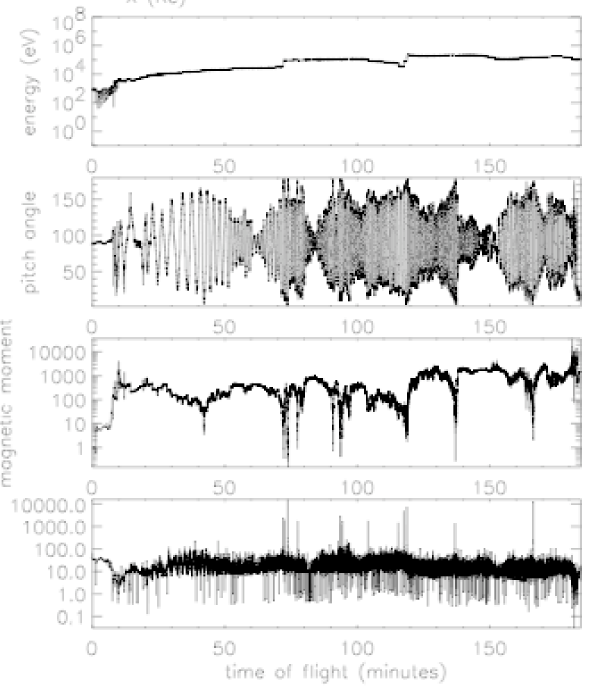

Southward IMF
Z (RE)
X (RE)
30
20
10
0
-10
-20
-30
-60
-40
-20
0
20
Y (RE)
X (RE)
tailward
Vx (km/s)
sunward
1000.
100.
10.
1.
10.
100.
1000.


Northward IMF
Z (RE)
X (RE)
30
20
10
0
-10
-20
-30
-60
-40
-20
0
20
Y (RE)
X (RE)
tailward
Vx (km/s)
sunward
1000.
10.
0.1
10.
1000.

Test−particle code of D. Delcourt



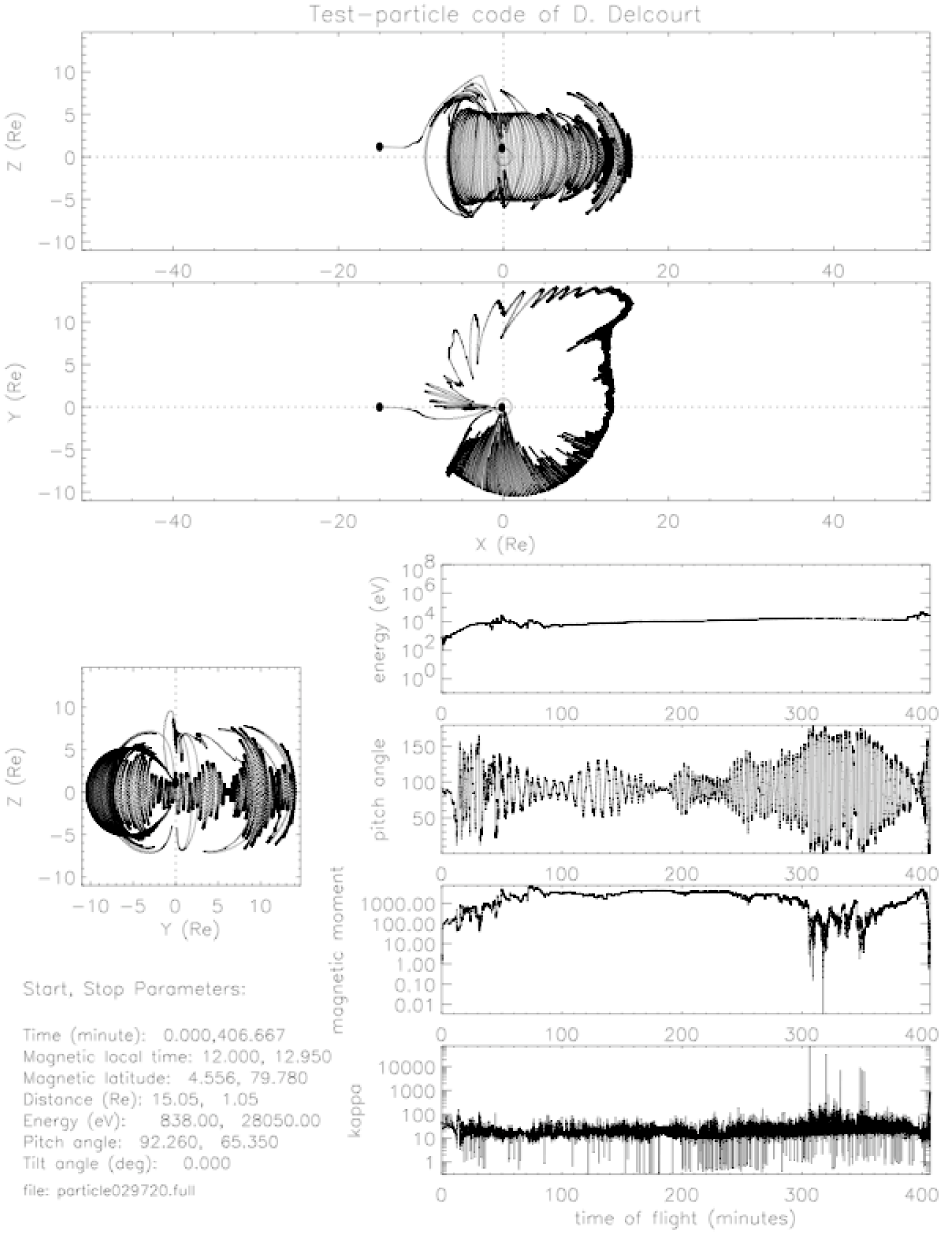


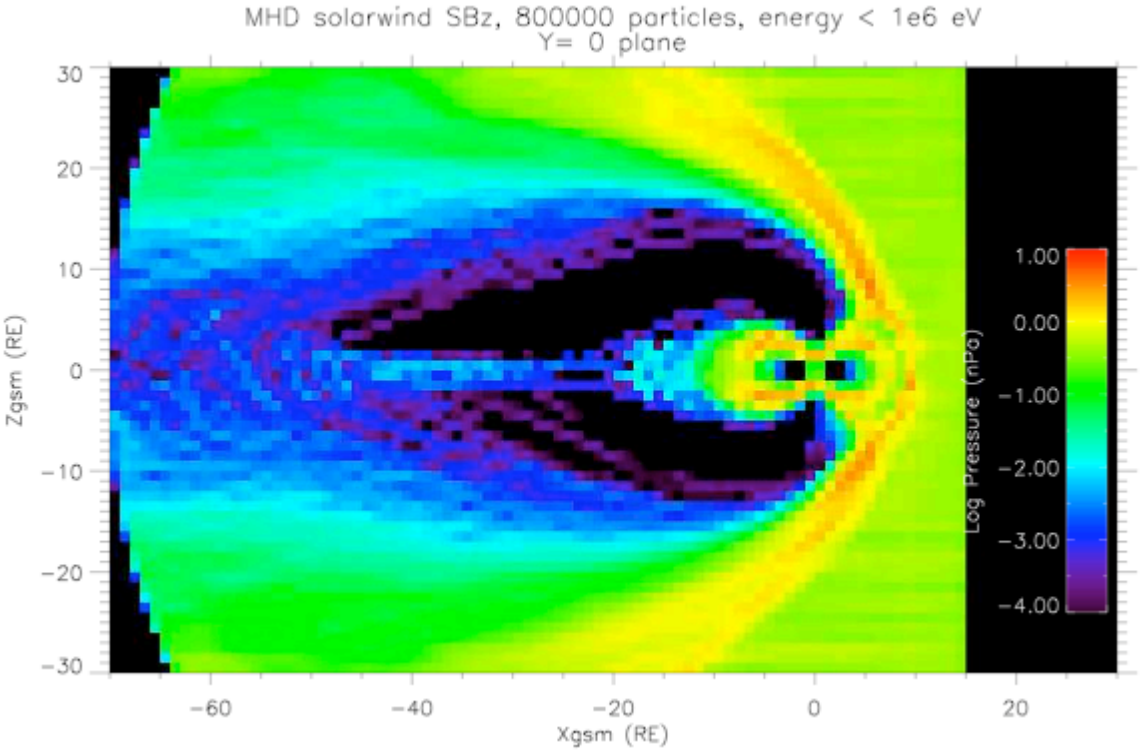


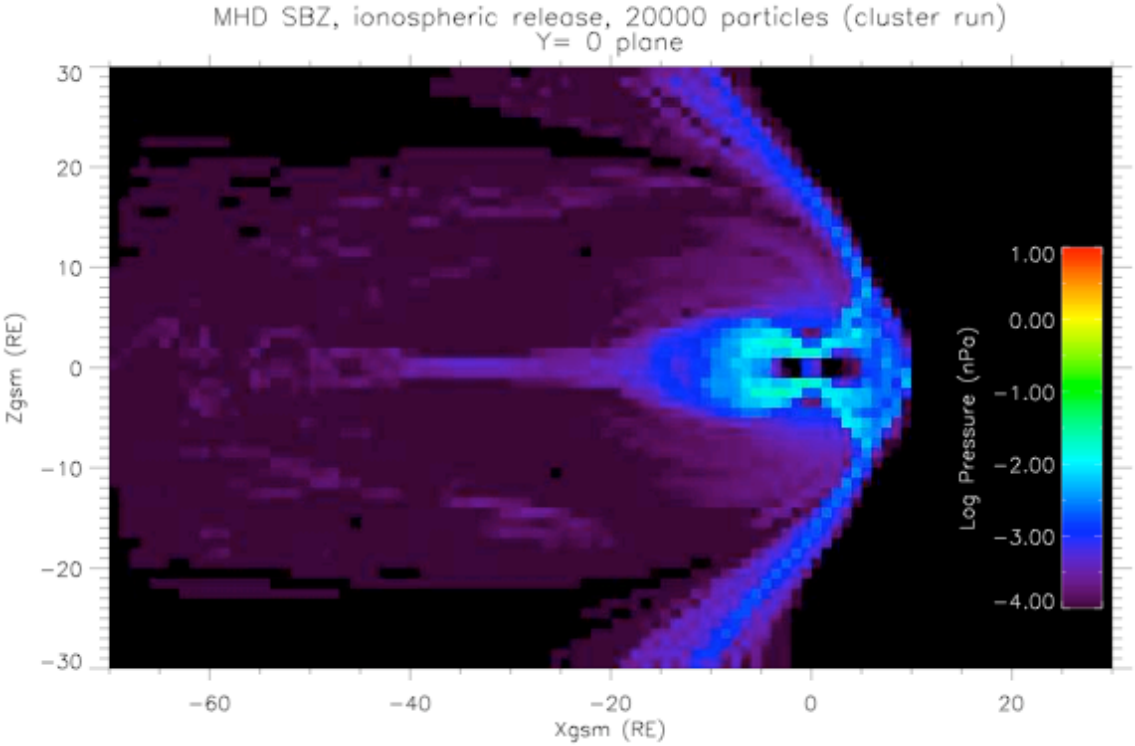
Start, Stop Parameters:

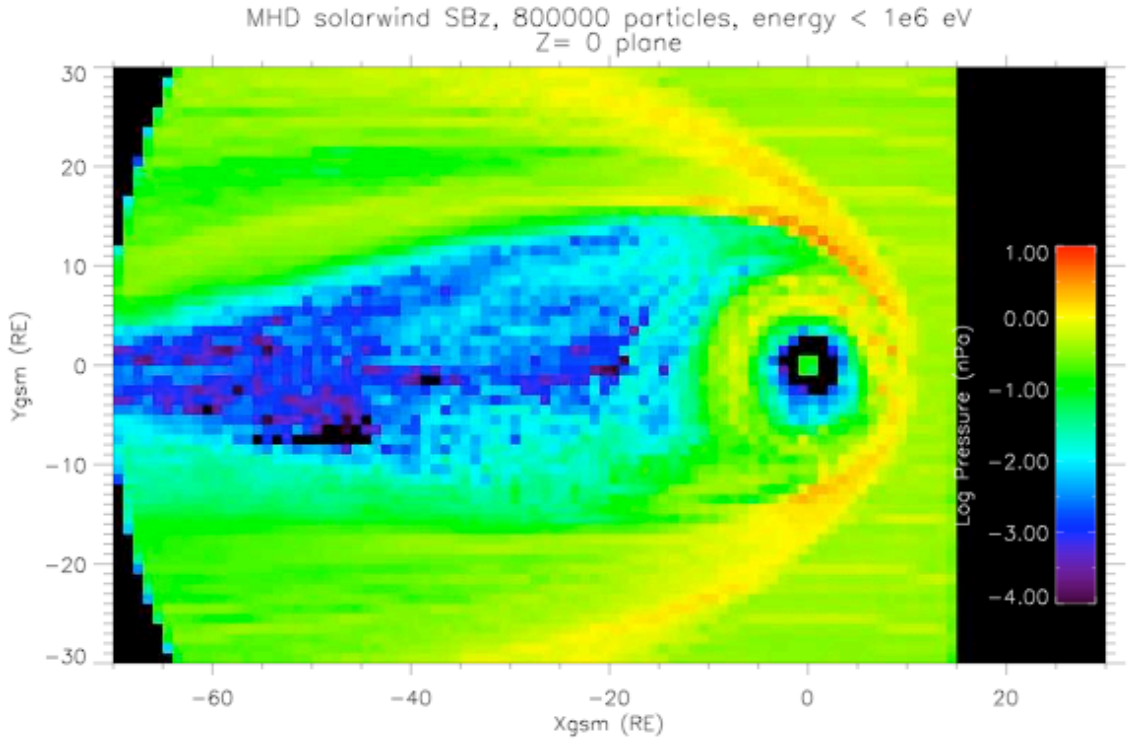
Time (minute): 0.000,184.333
Magnetic local time: 10.360, 1.321
Magnetic latitude: 4.331,−76.880
Distance (Re): 16.54, 63.01
Energy (eV): 831.10, 114600.00
Pitch angle: 88.450, 17.010
Tilt angle (deg): 0.000

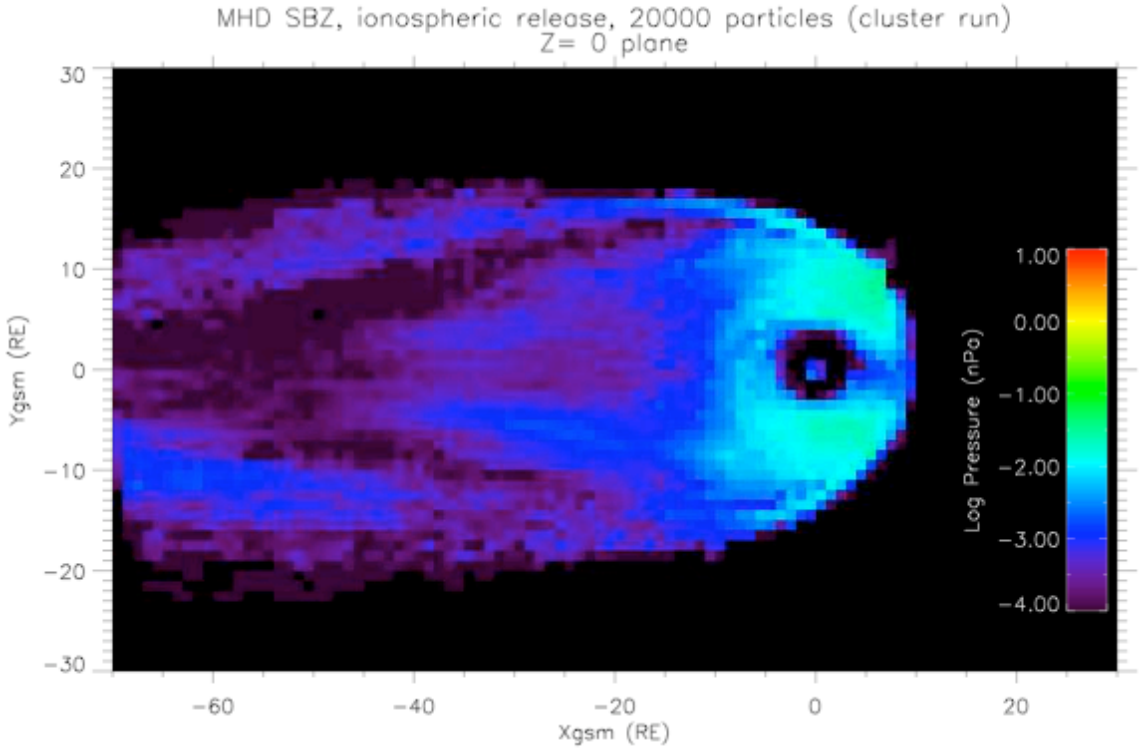
file: particle097314.full

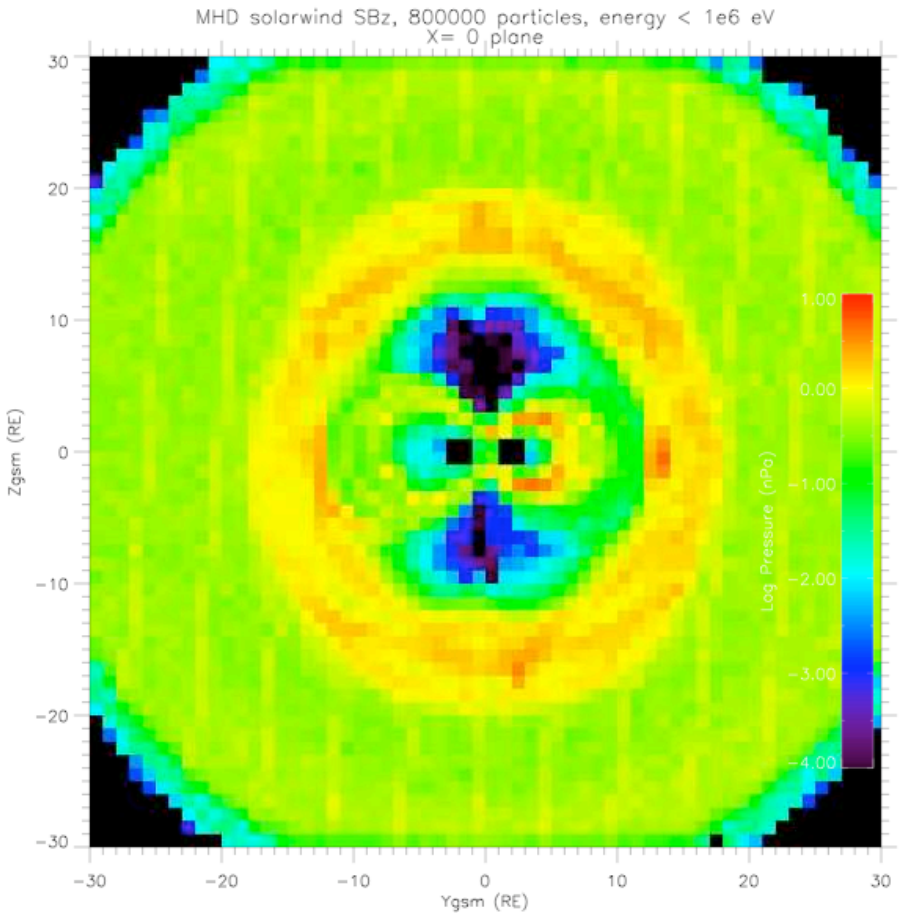

Test−particle code of D. Delcourt
Z (Re)
Y (Re)
X (Re)
energy (eV)
pitch angle
magnetic moment
kappa
time of flight (minutes)
Start, Stop Parameters:
Time (minute): 0.000,406.667
Magnetic local time: 12.000, 12.950
Magnetic latitude: 4.556, 79.780
Distance (Re): 15.05, 1.05
Energy (eV): 838.00, 28050.00
Pitch angle: 92.260, 65.350
Tilt angle (deg): 0.000
file: particle029720.full

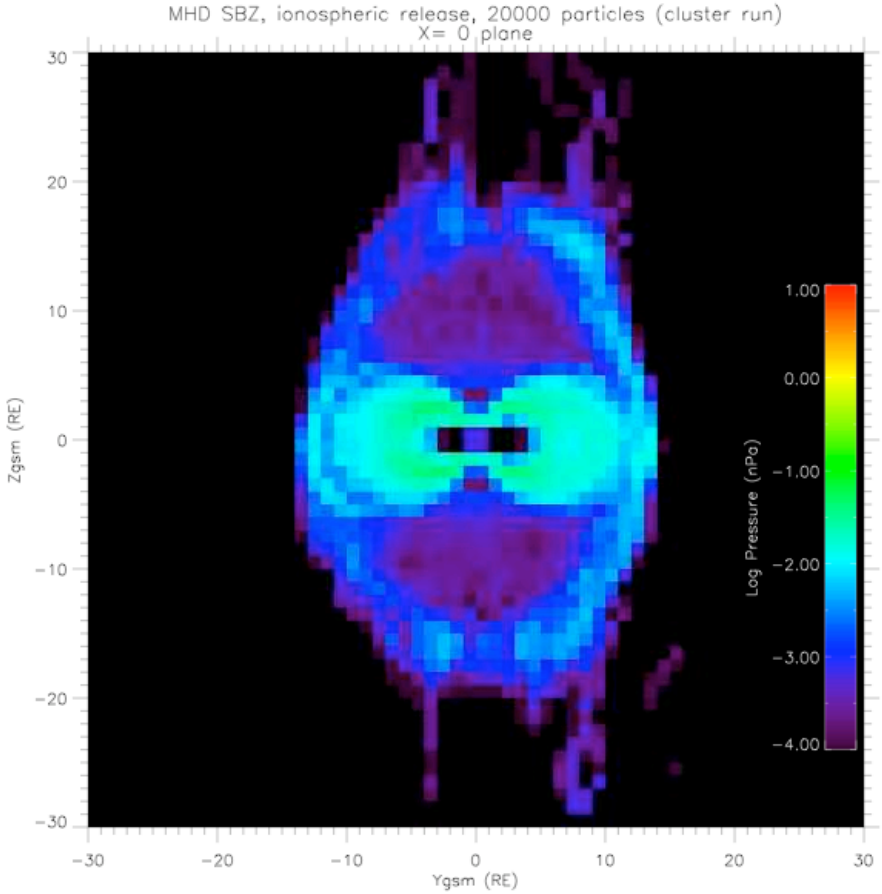

MHD solarwind SBz, 800000 particles, energy < 1e6 eV
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)
30
20
10
0
−10
−20
−30
−60
−40
−20
0
20
1.00
0.00
−1.00
−2.00
−3.00
−4.00

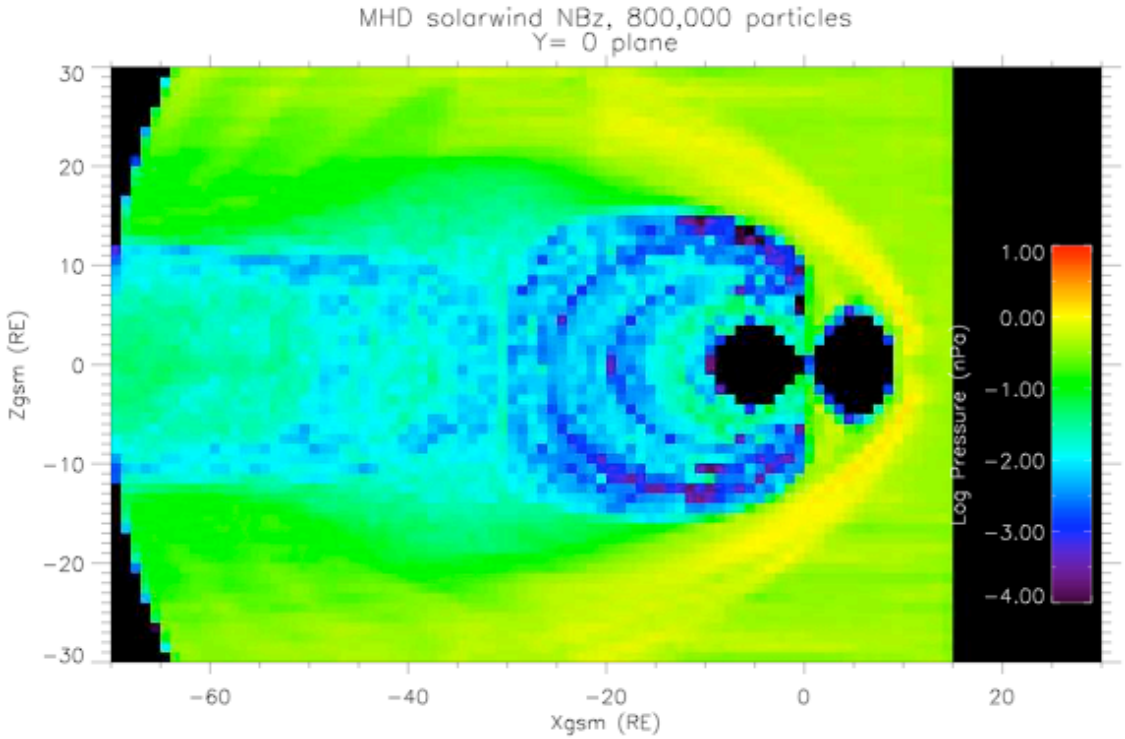

MHD SBZ, ionospheric release, 20000 particles (cluster run)
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)
30
20
10
0
−10
−20
−30
−60
−40
−20
0
20
1.00
0.00
−1.00
−2.00
−3.00
−4.00

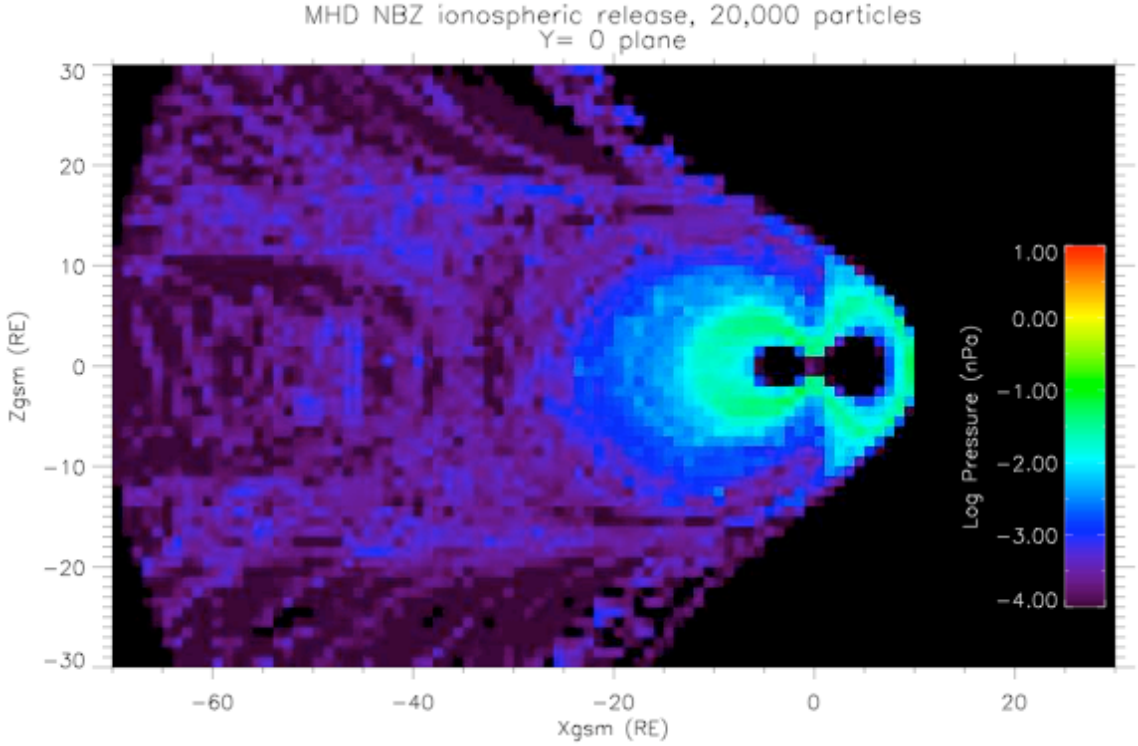

MHD solarwind SBz, 800000 particles, energy < 1e6 eV
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30
-60
-40
-20
0
20

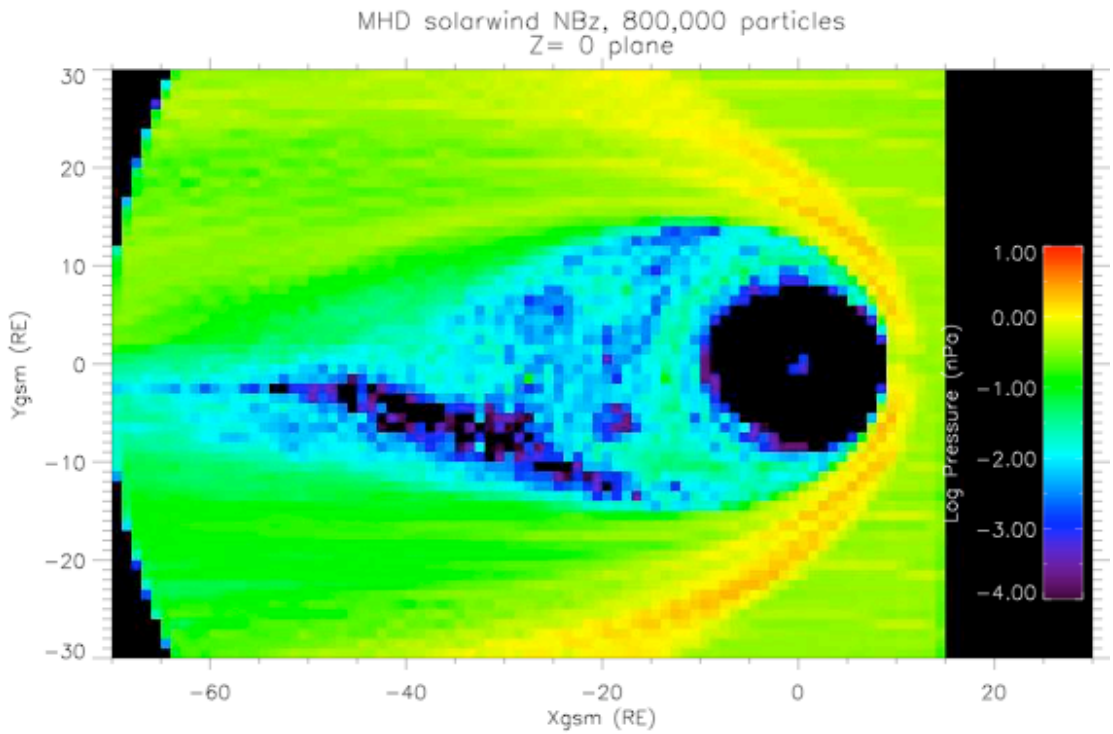

MHD SBZ, ionospheric release, 20000 particles (cluster run)
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30
-60
-40
-20
0
20

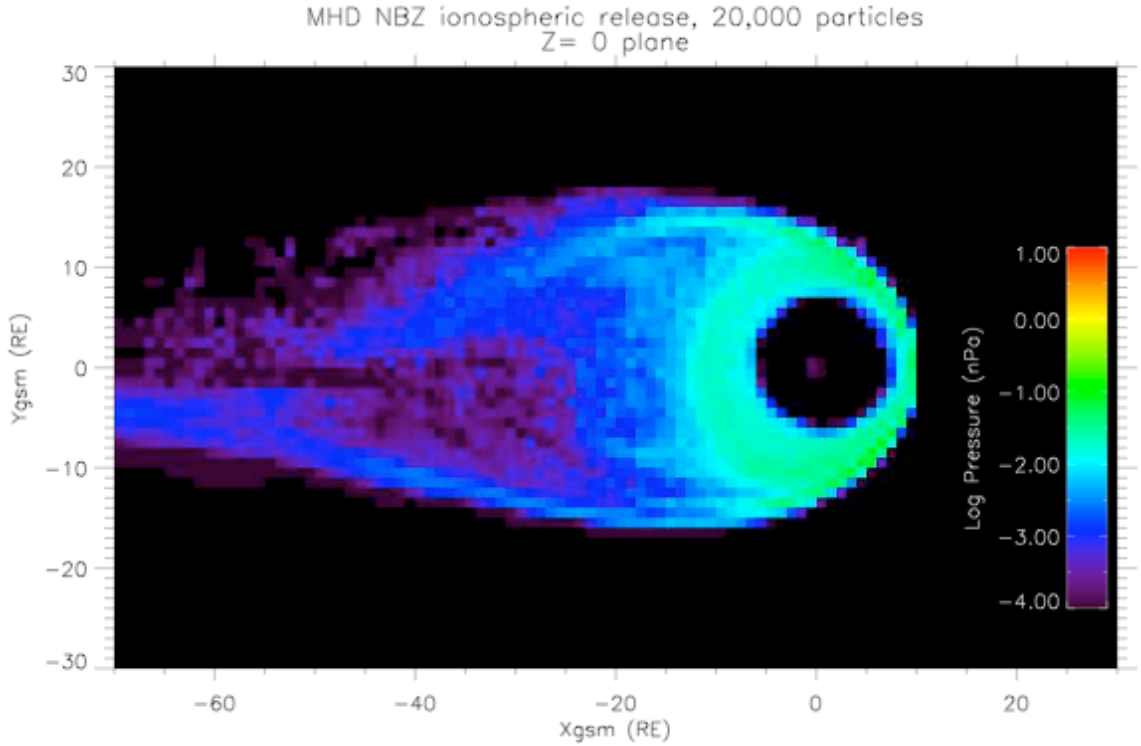

MHD solarwind SBz, 800000 particles, energy < 1e6 eV
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30

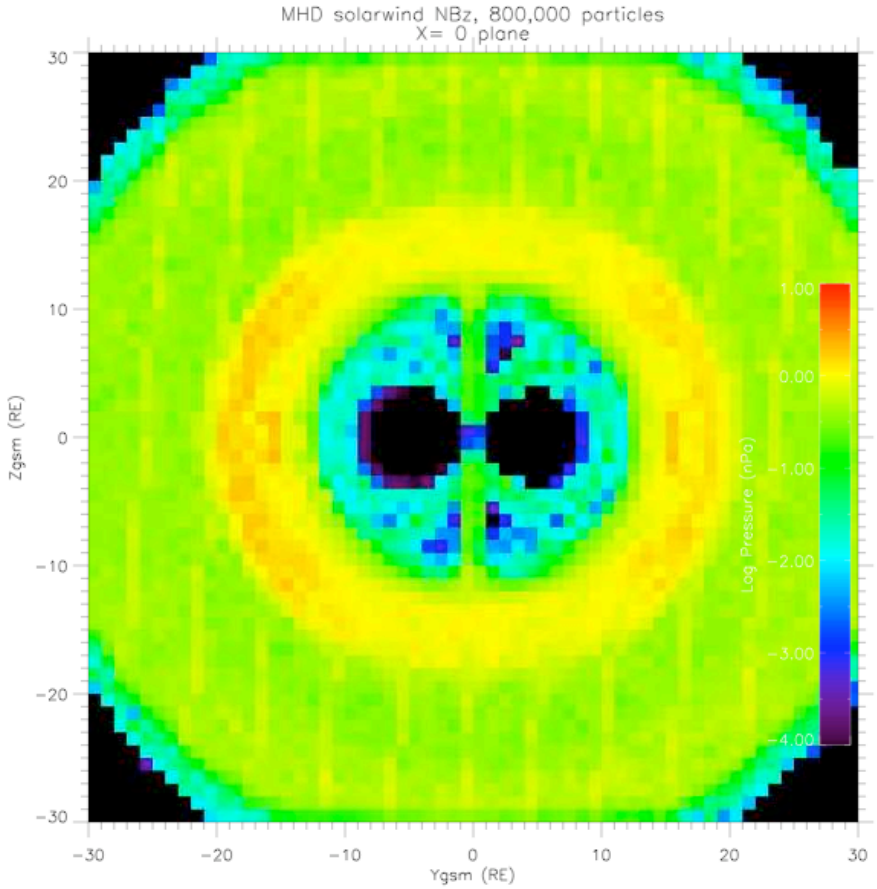

MHD SBZ, ionospheric release, 20000 particles (cluster run)
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30

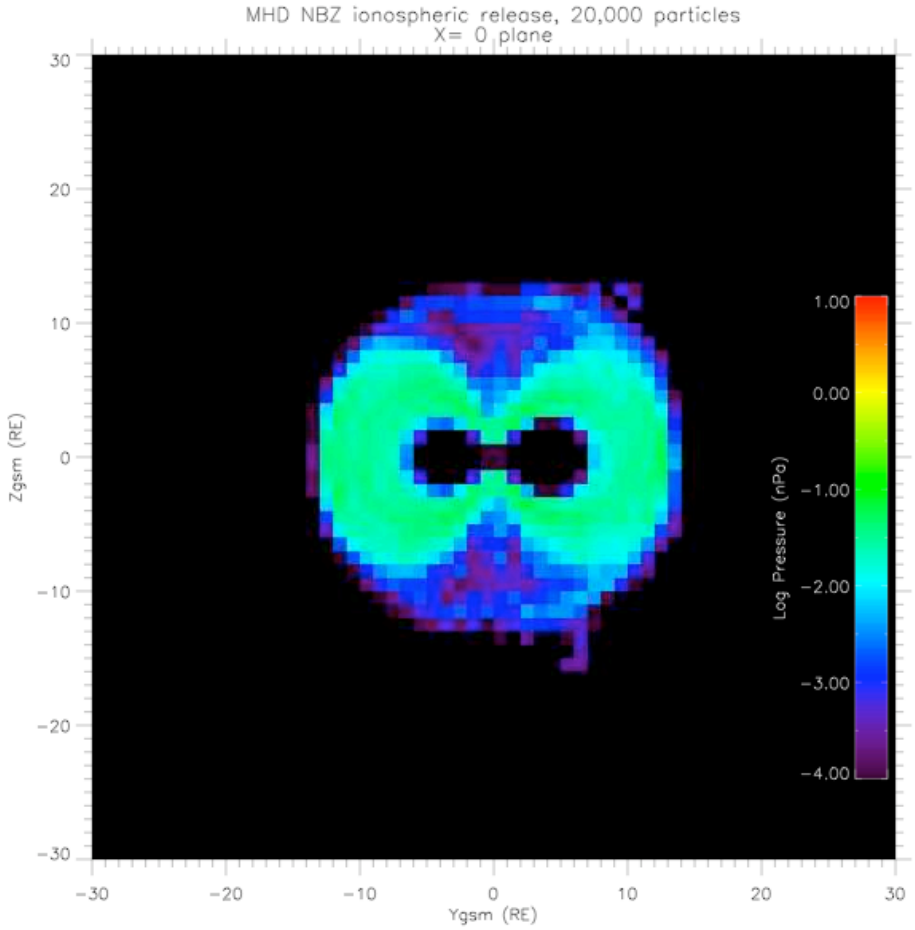

MHD solarwind NBz, 800,000 particles
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)
30
20
10
0
−10
−20
−30
−60
−40
−20
0
20
1.00
0.00
−1.00
−2.00
−3.00
−4.00

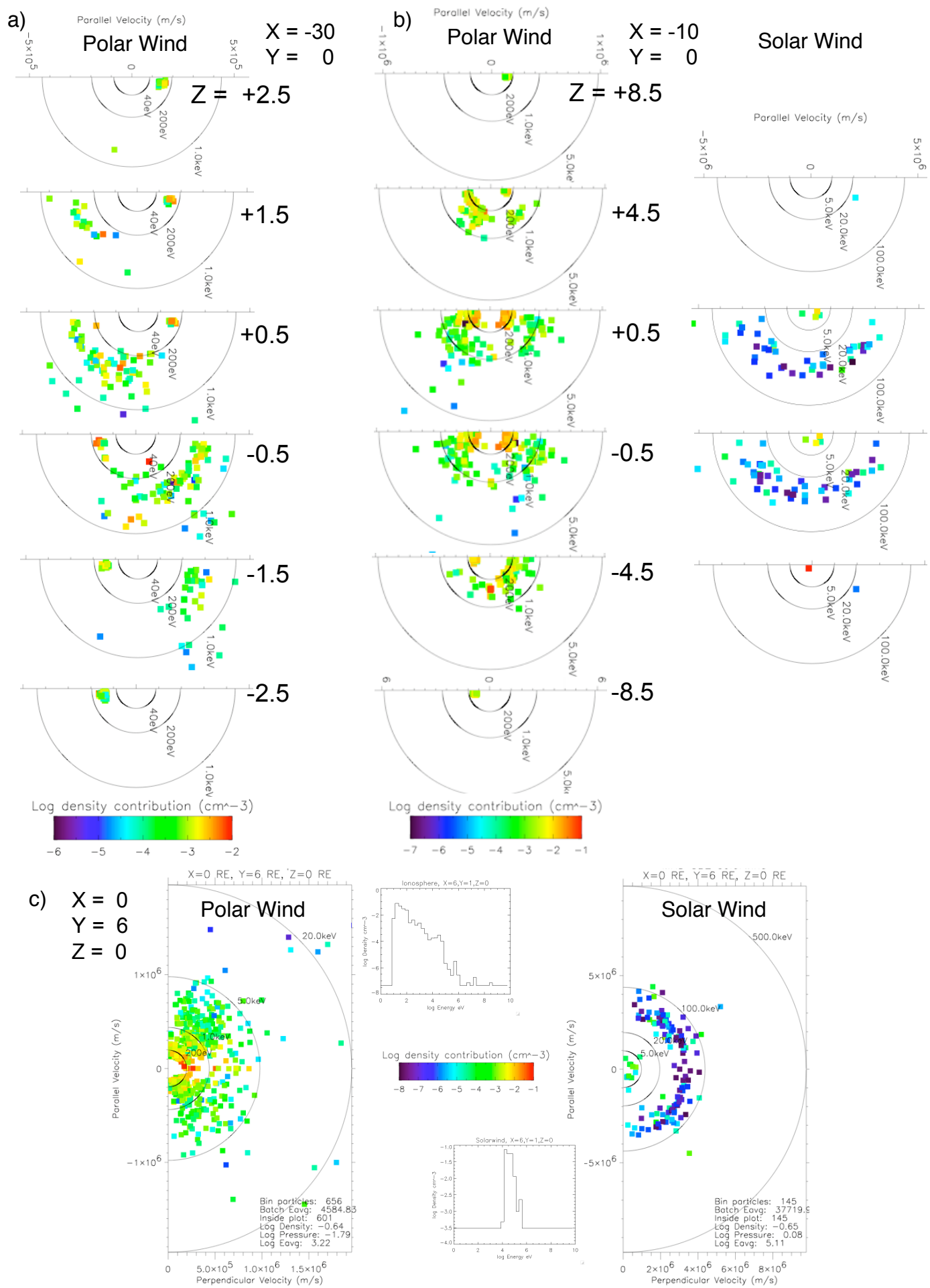

MHD NBZ ionospheric release, 20,000 particles
Y= 0 plane
Zgsm (RE)
Xgsm (RE)
Log Pressure (nPa)
30
20
10
0
−10
−20
−30
−60
−40
−20
0
20
1.00
0.00
−1.00
−2.00
−3.00
−4.00


MHD solarwind NBz, 800,000 particles
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30
-60
-40
-20
0
20

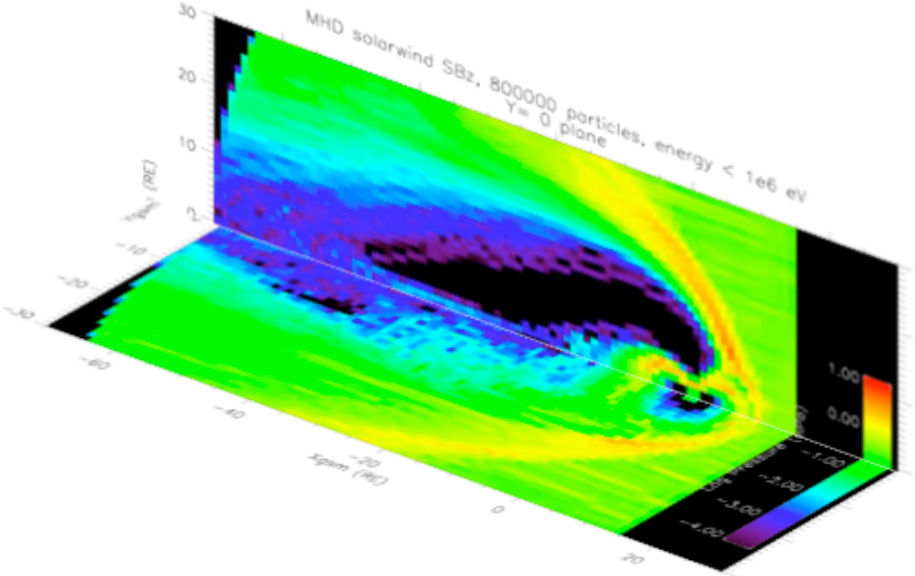

MHD NBZ ionospheric release, 20,000 particles
Z= 0 plane
Ygsm (RE)
Xgsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30
-60
-40
-20
0
20


MHD solarwind NBz, 800,000 particles
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30

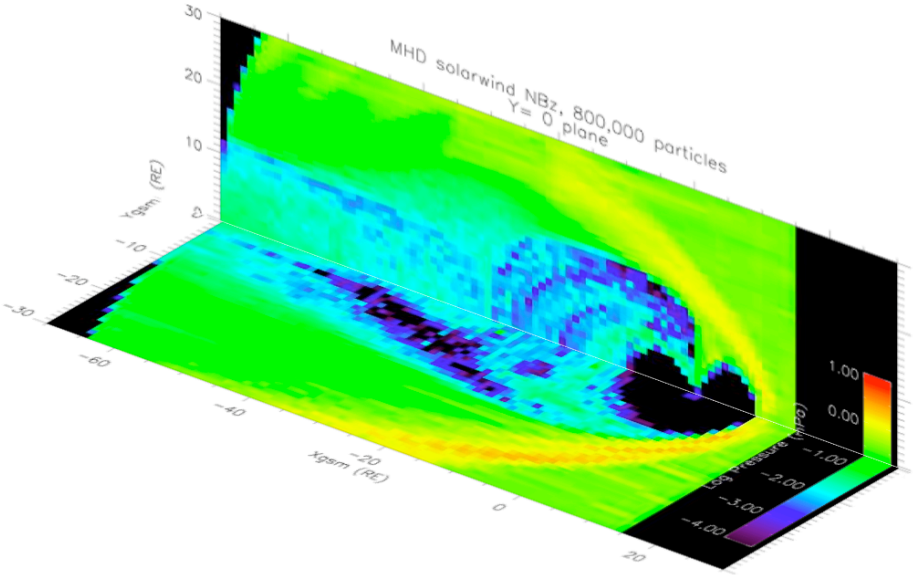

MHD NBZ ionospheric release, 20,000 particles
X= 0 plane
Zgsm (RE)
Ygsm (RE)
Log Pressure (nPa)
1.00
0.00
-1.00
-2.00
-3.00
-4.00
30
20
10
0
-10
-20
-30


a)
Polar Wind
X = -30
Y = 0
Z = +2.5
+1.5
+0.5
-0.5
-1.5
-2.5
Parallel Velocity (m/s)
Log density contribution (cm^-3)
b)
Polar Wind
X = -10
Y = 0
Z = +8.5
+4.5
+0.5
-0.5
-4.5
-8.5
Solar Wind
c)
X = 0
Y = 6
Z = 0
X=0 RE, Y=6 RE, Z=0 RE
Polar Wind
Solar Wind
Ionosphere, X=6,Y=1,Z=0
Solarwind, X=6,Y=1,Z=0
Log density contribution (cm^-3)
Parallel Velocity (m/s)
Perpendicular Velocity (m/s)
Bin particles: 656
Batch Eavg: 4584.83
Inside plot: 601
Log Density: -0.64
Log Pressure: -1.79
Log Eavg: 3.22
Bin particles: 145
Batch Eavg: 37719.9
Inside plot: 145
Log Density: -0.65
Log Pressure: 0.08
Log Eavg: 5.11

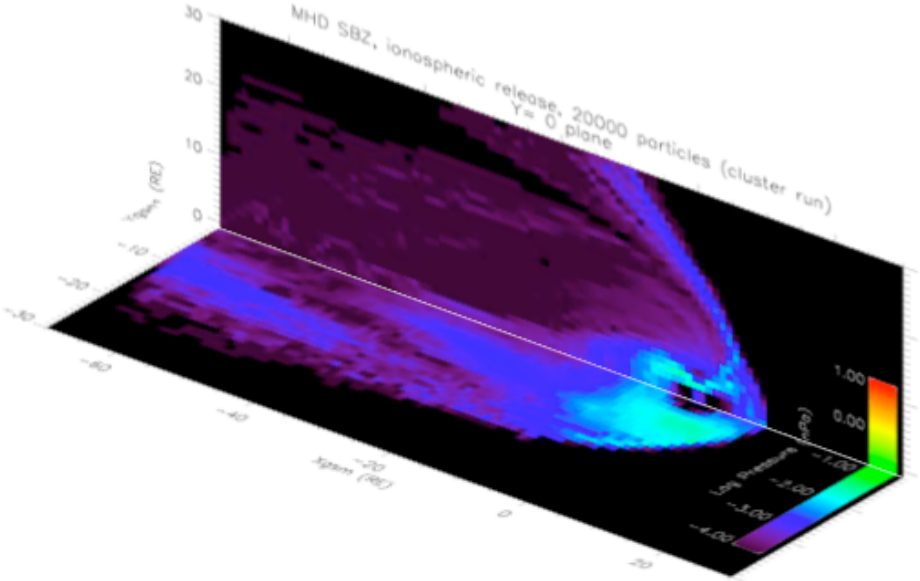
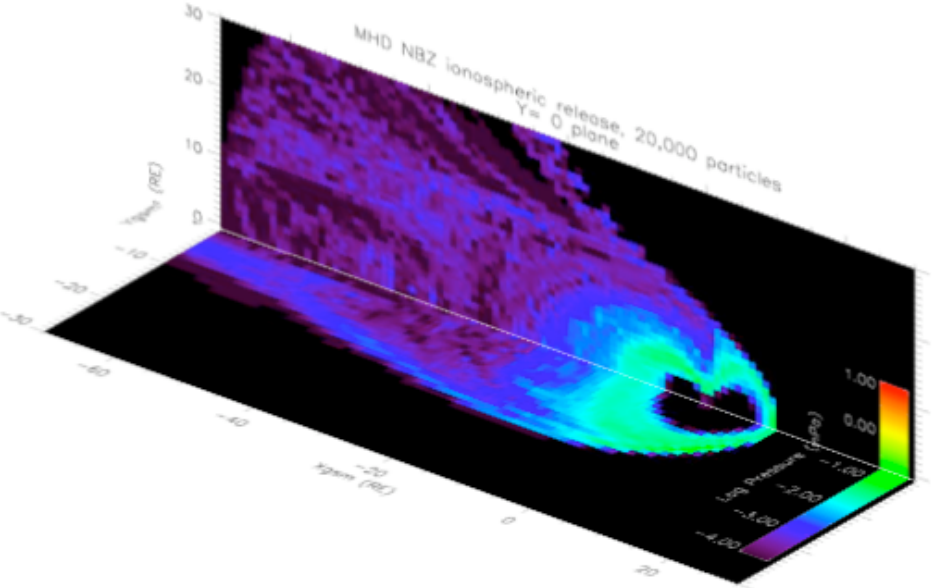
Solar SBz



Solar NBz



Polar SBz



Polar NBz