Supporting Information for " Effect of a magnetospheric compression on Jovian radio emissions: an in situ case study using Juno data"

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Introduction

This Supporting Information contains magnetosphere boundaries crossings (Tables S1 and S2) and originals csv files (Files F1 and F2), 3D projection of the magnetosphere boundaries crossings (Figure S1), outputs of Tao et al. (2005)'s model (Figures S2 and S3), and timeseries of the narrowband Kilometric emission separated by frequency channel, for the interval studied in the main article. (Figure S4).

Tables S1, S2 and Files F1, F2 are directly downloadable at:
https://doi.org/10.5281/zenodo.7304516 (Louis et al., 2022).

Table S1 – List of Magnetopause boundary crossings from Juno/Waves and Juno/MAG measurements

All this information is also available directly in the file:
boundary_crossings_caracteristics_list.csv (File F1).

Table S 1: List of magnetopause crossings, as measured by Juno/Waves and Juno/MAG. For each crossing, number of the crossing (MP#), day of the year (DOY), date (day/month/year format) and time (hours:minutes format) are indicated, as well as the boundary crossed (magnetopause in this case), the direction of the crossing (in: from the magnetosphere to the magnetosheath; out: from the magnetosheath to the magnetosphere). The column "Notes" indicates whether the magnetopause has potentially not been completely crossed (see Fig. 1c). Position of the crossings are given in the Cartesian Jupiter-Heliospheric (JH) and the International Astronomical Union (IAU) coordinate systems, and IAU spherical coordinates system. Finally, the dynamic pressure of the solar wind, and the standoff distance of the magnetopause and the bow shock, derived from the model of Joy et al. (2002), are given in the last three columns. Note that the list of crossings up to 2016-11-26 was provided by Hospodarsky et al. (2017).

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(1) JSS coordinate system: this coordinate system is defined such that X points towards the Sun, the Z axis is along the Jovian spin axis, positive in the direction of angular momentum, and Y completes the righthanded set (positive towards dusk).
(2) IAU coordinate system: this coordinate system is defined such that Z-axis is along the Jovian spin axis, X-axis is defined by 0° latitude on the System III longitude λ_{III} =0° (prime meridian). The Y-axis completes the orthogonal right-handed system.
(3) Values determined using the Joy et al. (2002)'s model.
Note: the nan values in the 'standoff distance' columns are given when the bow shock standoff distance calculated from the Joy et al. (2002) model is smaller than that of the magnetopause (non-physical).

#	Day of Year	Date (day/month/year)	Time (HH:MM)	Boundary	in/out	Notes	x (JSS[1])	y (JSS[1])	z (JSS[1])	x (IAU[2])	y (IAU[2])	z (IAU[2])	r (IAU[2])	θ (IAU[2])	ϕ (IAU[2])	Dynamic Pressure[3] (nPa)	Magnetopause Standoff Distance[3] (Jovian radius)	Bow Shock Standoff Distance[3] (Jovian radius)
MP1	177	25/06/2016	21:20	magnetopause	in		5.744	-110.859	25.498	-18.942	-109.380	25.498	113.899	1.345	-1.742	0.067	84.300	109.100
MP2	180	28/06/2016	22:27	magnetopause	out		3.907	-81.666	20.808	-51.758	63.291	20.808	84.366	1.322	2.256	0.267	64.900	77.300
MP3	181	29/06/2016	08:40	magnetopause	in		3.659	-77.352	20.096	-35.740	68.697	20.096	80.003	1.317	2.051	0.323	62.300	72.500
MP4	181	29/06/2016	09:23	magnetopause	out		3.640	-77.033	20.043	-0.379	77.118	20.043	79.681	1.317	1.576	0.328	62.200	72.100
MP5	181	29/06/2016	11:07	magnetopause	in		3.600	-76.324	19.926	66.287	38.005	19.926	78.964	1.316	0.521	0.338	61.800	71.300
MP6	181	29/06/2016	17:12	magnetopause	out		3.453	-73.719	19.492	-72.486	13.864	19.492	76.331	1.313	2.953	0.378	60.300	68.400
MP7	181	29/06/2016	23:41	magnetopause	in		3.297	-70.906	19.020	28.193	-65.143	19.020	73.486	1.309	-1.162	0.426	58.700	65.300
MP8	196	14/07/2016	21:18	magnetopause	out		2.047	-80.750	-14.404	13.911	-79.569	-14.404	82.050	1.747	-1.398	0.307	63.000	73.800
MP9	197	15/07/2016	07:16	magnetopause	in		2.046	-82.463	-14.334	14.632	-81.180	-14.334	83.724	1.743	-1.392	0.287	63.900	75.500
MP10	197	15/07/2016	17:06	magnetopause	out	maybe not fully crossed	2.042	-84.100	-14.254	19.695	-81.787	-14.254	85.324	1.739	-1.334	0.268	64.800	77.200
MP11	197	15/07/2016	19:11	magnetopause	in	maybe not fully crossed	2.041	-84.440	-14.235	-74.597	-39.618	-14.235	85.655	1.738	-2.653	0.264	65.000	77.500
MP12	198	16/07/2016	23:07	magnetopause	out		2.012	-88.741	-13.949	8.310	-88.374	-13.949	89.853	1.727	-1.477	0.221	67.400	81.900
MP13	201	19/07/2016	17:26	magnetopause	in		1.851	-97.302	-13.015	84.863	47.638	-13.015	98.186	1.704	0.512	0.155	72.400	90.500
MP14	201	19/07/2016	20:43	magnetopause	out		1.841	-97.677	-12.960	-2.727	-97.656	-12.960	98.550	1.703	-1.599	0.152	72.600	90.900
MP15	202	20/07/2016	09:18	magnetopause	in		1.800	-99.042	-12.747	-98.088	13.830	-12.747	99.876	1.699	3.002	0.144	73.400	92.200
MP16	202	20/07/2016	19:16	magnetopause	out		1.765	-100.068	-12.572	-99.175	13.455	-12.572	100.870	1.696	3.007	0.137	74.000	93.300
MP17	203	21/07/2016	01:49	magnetopause	in		1.740	-100.726	-12.453	40.141	-92.398	-12.453	101.508	1.694	-1.161	0.134	74.400	93.900
MP18	203	21/07/2016	02:02	magnetopause	out		1.739	-100.742	-12.450	30.191	-96.127	-12.450	101.523	1.694	-1.266	0.134	74.400	93.900
MP19	204	22/07/2016	14:31	magnetopause	in		1.592	-104.049	-11.751	75.485	71.629	-11.751	104.723	1.683	0.759	0.116	76.400	97.100
MP20	205	23/07/2016	14:06	magnetopause	out		1.485	-105.895	-11.265	-3.553	-105.845	-11.265	106.502	1.677	-1.604	0.107	77.500	98.900
MP21	205	23/07/2016	19:54	magnetopause	in		1.458	-106.317	-11.142	58.702	88.653	-11.142	106.909	1.675	0.986	0.105	77.800	99.300
MP22	206	24/07/2016	18:47	magnetopause	out		1.345	-107.841	-10.644	66.801	-84.670	-10.644	108.373	1.669	-0.903	0.099	78.700	100.700
MP23	207	25/07/2016	01:12	magnetopause	in		1.312	-108.234	-10.501	27.056	104.805	-10.501	108.749	1.668	1.318	0.097	78.900	101.100
MP24	207	25/07/2016	14:33	magnetopause	out		1.242	-109.004	-10.196	68.413	-84.872	-10.196	109.487	1.664	-0.892	0.094	79.400	101.800
MP25	212	30/07/2016	00:22	magnetopause	in		0.638	-112.778	-7.597	32.828	107.896	-7.597	113.035	1.638	1.275	0.081	81.500	105.000
MP26	214	01/08/2016	19:36	magnetopause	out		0.225	-113.113	-5.798	-101.461	50.002	-5.798	113.262	1.622	2.684	0.081	81.400	104.900
MP27	214	01/08/2016	20:57	magnetopause	in		0.217	-113.103	-5.762	-30.039	109.042	-5.762	113.250	1.622	1.840	0.081	81.400	104.900
MP28	214	01/08/2016	21:55	magnetopause	out	maybe not fully crossed	0.210	-113.096	-5.734	40.291	105.676	-5.734	113.242	1.621	1.207	0.081	81.400	104.900
MP29	215	02/08/2016	08:13	magnetopause	in	maybe not fully crossed	0.146	-112.999	-5.449	65.915	91.782	-5.449	113.130	1.619	0.948	0.082	81.300	104.700
MP30	215	02/08/2016	10:50	magnetopause	out	maybe not fully crossed	0.130	-112.969	-5.378	87.309	-71.687	-5.378	113.097	1.618	-0.687	0.082	81.300	104.700
MP31	215	02/08/2016	13:59	magnetopause	in		0.110	-112.929	-5.290	-101.716	-49.060	-5.290	113.053	1.618	-2.692	0.082	81.300	104.600
MP32	215	02/08/2016	22:12	magnetopause	out		0.059	-112.810	-5.063	-0.935	-112.806	-5.063	112.923	1.616	-1.579	0.083	81.100	104.500
MP33	215	02/08/2016	22:49	magnetopause	in		0.055	-112.799	-5.045	-47.057	-102.515	-5.045	112.912	1.615	-2.001	0.083	81.100	104.500
MP34	219	06/08/2016	19:56	magnetopause	out		-0.501	-109.731	-2.393	-35.722	103.755	-2.393	109.758	1.593	1.902	0.098	78.800	100.900
MP35	219	06/08/2016	23:50	magnetopause	in		-0.523	-109.533	-2.280	91.792	-59.766	-2.280	109.558	1.592	-0.577	0.099	78.700	100.700
MP36	220	07/08/2016	01:20	magnetopause	out		-0.531	-109.455	-2.236	4.819	-109.350	-2.236	109.479	1.591	-1.527	0.099	78.600	100.600
MP37	221	08/08/2016	08:44	magnetopause	in		-0.707	-107.633	-1.321	-90.303	-58.573	-1.321	107.644	1.583	-2.566	0.108	77.400	98.700
MP38	221	08/08/2016	14:35	magnetopause	out		-0.739	-107.253	-1.150	107.225	2.583	-1.150	107.262	1.582	0.024	0.110	77.100	98.300
MP39	221	08/08/2016	15:26	magnetopause	in		-0.743	-107.198	-1.126	93.898	-51.721	-1.126	107.207	1.581	-0.503	0.111	77.100	98.200
MP40	221	08/08/2016	15:38	magnetopause	out		-0.744	-107.181	-1.118	84.560	-65.864	-1.118	107.190	1.581	-0.662	0.111	77.100	98.200
MP41	224	11/08/2016	17:12	magnetopause	in		-1.106	-101.187	1.036	-100.955	6.932	1.036	101.198	1.561	3.073	0.146	73.100	91.800
MP42	224	11/08/2016	23:25	magnetopause	out		-1.133	-100.572	1.219	63.800	-77.754	1.219	100.586	1.559	-0.884	0.151	72.700	91.100
MP43	225	12/08/2016	03:56	magnetopause	in		-1.152	-100.118	1.350	-83.149	55.779	1.350	100.134	1.557	2.551	0.154	72.500	90.700
MP44	225	12/08/2016	10:05	magnetopause	out		-1.178	-99.482	1.530	21.476	-97.143	1.530	99.500	1.555	-1.353	0.158	72.100	90.000
MP45	225	12/08/2016	12:39	magnetopause	in		-1.188	-99.210	1.605	-98.059	-15.116	1.605	99.230	1.555	-2.989	0.160	71.900	89.700
MP46	225	12/08/2016	21:11	magnetopause	out		-1.222	-98.293	1.853	-48.482	-85.514	1.853	98.318	1.552	-2.087	0.167	71.300	88.700
MP47	225	12/08/2016	23:55	magnetopause	in	maybe not fully crossed	-1.233	-97.990	1.933	-75.835	62.070	1.933	98.017	1.551	2.456	0.169	71.100	88.400
MP48	250	06/09/2016	11:02	magnetopause	out		-3.699	-81.053	-15.622	5.976	80.917	-15.622	82.628	1.761	1.497	0.346	61.500	70.700

MP49	250	06/09/2016	21:47	magnetopause	in		-3.831	-82.875	-15.568	46.574	68.657	-15.568	84.412	1.756	0.975	0.322	62.400	72.500
MP50	251	07/09/2016	03:15	magnetopause	out		-3.898	-83.780	-15.535	-67.549	-49.712	-15.535	85.297	1.754	-2.507	0.311	62.800	73.400
MP51	252	08/09/2016	23:56	magnetopause	in	maybe not fully crossed	-4.429	-90.473	-15.151	73.106	53.483	-15.151	91.839	1.737	0.632	0.240	66.300	80.000
MP52	258	14/09/2016	22:50	magnetopause	out	maybe not fully crossed	-5.973	-105.315	-12.889	-32.115	-100.477	-12.889	106.269	1.692	-1.880	0.133	74.500	94.100
MP53	260	16/09/2016	21:51	magnetopause	in	maybe not fully crossed	-6.421	-108.331	-11.898	105.940	-23.530	-11.898	109.172	1.680	-0.219	0.118	76.200	96.800
MP54	263	19/09/2016	07:05	magnetopause	out		-6.918	-110.884	-10.569	36.375	104.976	-10.569	111.601	1.666	1.237	0.107	77.600	98.900
MP55	263	19/09/2016	20:41	magnetopause	in	maybe not fully crossed	-7.028	-111.315	-10.237	52.688	-98.307	-10.237	112.005	1.662	-1.079	0.105	77.800	99.300
MP56	264	20/09/2016	07:05	magnetopause	out	maybe not fully crossed	-7.110	-111.601	-9.978	20.096	-110.006	-9.978	112.271	1.660	-1.390	0.104	77.900	99.500
MP57	264	20/09/2016	13:20	magnetopause	in	maybe not fully crossed	-7.159	-111.753	-9.820	66.373	90.192	-9.820	112.412	1.658	0.936	0.104	78.000	99.600
MP58	266	22/09/2016	02:28	magnetopause	out		-7.430	-112.381	-8.862	-92.850	63.746	-8.862	112.974	1.649	2.540	0.102	78.200	100.000
MP59	266	22/09/2016	09:40	magnetopause	in		-7.479	-112.446	-8.672	-46.596	-102.610	-8.672	113.028	1.648	-1.997	0.102	78.200	100.000
MP60	267	23/09/2016	18:09	magnetopause	out		-7.685	-112.516	-7.796	-94.289	61.874	-7.796	113.047	1.640	2.561	0.102	78.200	99.900
MP61	267	23/09/2016	21:05	magnetopause	in		-7.702	-112.504	-7.717	85.194	73.881	-7.717	113.031	1.639	0.714	0.102	78.200	99.900
MP62	272	28/09/2016	01:35	magnetopause	out	maybe not fully crossed	-8.157	-110.253	-4.852	110.223	-8.550	-4.852	110.661	1.615	-0.077	0.116	76.400	97.200
MP63	273	29/09/2016	13:05	magnetopause	in	maybe not fully crossed	-8.245	-108.587	-3.797	-92.248	57.873	-3.797	108.965	1.606	2.581	0.125	75.300	95.300
MP64	274	30/09/2016	13:17	magnetopause	out		-8.281	-107.181	-3.070	106.268	-16.230	-3.070	107.544	1.599	-0.152	0.134	74.400	93.800
MP65	274	30/09/2016	16:36	magnetopause	in		-8.284	-106.969	-2.969	-68.376	-82.678	-2.969	107.331	1.598	-2.262	0.135	74.200	93.600
MP66	275	01/10/2016	03:54	magnetopause	out		-8.291	-106.217	-2.625	-106.533	1.259	-2.625	106.573	1.595	3.130	0.140	73.800	92.800
MP67	275	01/10/2016	05:40	magnetopause	in		-8.292	-106.096	-2.571	-46.395	95.774	-2.571	106.451	1.595	2.022	0.141	73.700	92.700
MP68	275	01/10/2016	17:48	magnetopause	out		-8.294	-105.224	-2.201	86.952	59.835	-2.201	105.573	1.592	0.603	0.146	73.100	91.800
MP69	275	01/10/2016	21:44	magnetopause	in		-8.293	-104.931	-2.081	-31.710	-100.368	-2.081	105.279	1.591	-1.877	0.148	72.900	91.500
MP70	276	02/10/2016	01:04	magnetopause	out		-8.292	-104.676	-1.979	-69.659	78.572	-1.979	105.023	1.590	2.296	0.150	72.800	91.200
MP71	278	04/10/2016	04:36	magnetopause	in		-8.216	-100.152	-0.395	44.782	89.958	-0.395	100.489	1.575	1.109	0.183	70.000	86.500
MP72	312	07/11/2016	23:46	magnetopause	out		-13.573	-105.565	-14.122	104.790	18.636	-14.121	107.367	1.703	0.176	0.157	72.200	90.200
MP73	313	08/11/2016	09:02	magnetopause	in	maybe not fully crossed	-13.702	-106.143	-13.934	88.132	60.719	-13.934	107.927	1.700	0.603	0.153	72.500	90.700
MP74	313	08/11/2016	11:31	magnetopause	out	maybe not fully crossed	-13.736	-106.294	-13.883	59.754	-88.975	-13.883	108.073	1.700	-0.979	0.152	72.600	90.900
MP75	314	09/11/2016	17:32	magnetopause	in		-14.130	-107.917	-13.242	47.221	-98.061	-13.242	109.641	1.692	-1.122	0.144	73.400	92.200
MP76	314	09/11/2016	18:09	magnetopause	out		-14.138	-107.950	-13.228	2.909	-108.833	-13.228	109.673	1.692	-1.544	0.143	73.400	92.300
MP77	318	13/11/2016	08:28	magnetopause	in		-15.048	-110.776	-11.167	105.040	38.267	-11.167	112.350	1.670	0.349	0.130	74.700	94.400
MP78	318	13/11/2016	15:08	magnetopause	out	maybe not fully crossed	-15.104	-110.885	-10.996	-83.428	74.588	-10.996	112.448	1.669	2.412	0.130	74.800	94.500
MP79	318	13/11/2016	19:55	magnetopause	in		-15.143	-110.952	-10.873	92.736	-62.767	-10.873	112.508	1.668	-0.595	0.130	74.800	94.500
MP80	318	13/11/2016	21:40	magnetopause	out		-15.156	-110.975	-10.828	-14.752	-111.030	-10.828	112.528	1.667	-1.703	0.130	74.800	94.600
MP81	319	14/11/2016	00:45	magnetopause	in		-15.181	-111.013	-10.748	-97.608	55.017	-10.748	112.560	1.666	2.628	0.130	74.800	94.600
MP82	319	14/11/2016	05:04	magnetopause	out	maybe not fully crossed	-15.214	-111.060	-10.634	111.357	-12.861	-10.634	112.600	1.665	-0.115	0.130	74.800	94.600
MP83	319	14/11/2016	10:55	magnetopause	in	maybe not fully crossed	-15.257	-111.113	-10.481	-88.166	69.322	-10.481	112.644	1.664	2.475	0.130	74.800	94.600
MP84	324	19/11/2016	06:12	magnetopause	out		-15.780	-109.713	-7.237	21.973	-108.642	-7.237	111.078	1.636	-1.371	0.141	73.600	92.600
MP85	324	19/11/2016	11:24	magnetopause	in		-15.787	-109.537	-7.080	-1.939	110.651	-7.080	110.894	1.635	1.588	0.143	73.500	92.400
MP86	326	21/11/2016	22:39	magnetopause	out	maybe not fully crossed	-15.755	-106.851	-5.276	-22.212	105.698	-5.276	108.136	1.620	1.778	0.161	71.800	89.500
MP87	329	24/11/2016	04:01	magnetopause	in		-15.545	-103.291	-3.595	87.940	-56.368	-3.595	104.516	1.605	-0.570	0.188	69.600	85.800
MP88	330	25/11/2016	12:22	magnetopause	out		-15.322	-100.577	-2.555	-59.031	-82.861	-2.555	101.770	1.596	-2.190	0.211	68.100	83.100
MP89	330	25/11/2016	12:54	magnetopause	in		-15.318	-100.524	-2.536	-84.916	-55.938	-2.536	101.716	1.596	-2.559	0.211	68.100	83.100
MP90	330	25/11/2016	13:13	magnetopause	out		-15.315	-100.494	-2.525	-94.721	-36.899	-2.525	101.686	1.596	-2.770	0.212	68.000	83.000
MP91	330	25/11/2016	13:16	magnetopause	in		-15.315	-100.494	-2.525	-94.721	-36.899	-2.525	101.686	1.596	-2.770	0.212	68.000	83.000
MP92	330	25/11/2016	13:29	magnetopause	out		-15.313	-100.471	-2.517	-99.330	-21.504	-2.517	101.662	1.596	-2.928	0.212	68.000	83.000
MP93	330	25/11/2016	14:40	magnetopause	in		-15.303	-100.364	-2.480	-87.832	50.919	-2.480	101.555	1.595	2.616	0.213	68.000	82.900
MP94	330	25/11/2016	14:52	magnetopause	out		-15.302	-100.349	-2.474	-81.969	59.877	-2.474	101.539	1.595	2.511	0.213	68.000	82.900
MP95	330	25/11/2016	17:40	magnetopause	in		-15.279	-100.087	-2.382	76.319	66.531	-2.382	101.275	1.594	0.717	0.215	67.800	82.600
MP96	330	25/11/2016	20:44	magnetopause	out	maybe not fully crossed	-15.252	-99.799	-2.282	33.269	-95.318	-2.282	100.983	1.593	-1.235	0.218	67.700	82.300
MP97	331	26/11/2016	06:15	magnetopause	in	maybe not fully crossed	-15.166	-98.883	-1.974	56.883	-82.293	-1.974	100.059	1.591	-0.966	0.226	67.200	81.400
MP98	354	19/12/2016	01:50	magnetopause	out		-12.358	-67.450	-17.774	-31.570	-60.873	-17.774	70.838	1.824	-2.049	0.696	nan	nan
MP99	354	19/12/2016	07:14	magnetopause	in		-12.590	-68.596	-17.835	48.349	50.263	-17.835	71.987	1.821	0.805	0.669	53.000	53.200
MP100	354	19/12/2016	08:47	magnetopause	out		-12.653	-68.910	-17.851	69.328	-10.110	-17.851	72.300	1.820	-0.145	0.662	53.100	53.500
MP101	354	19/12/2016	14:12	magnetopause	in		-12.880	-70.025	-17.905	-64.648	29.833	-17.905	73.417	1.817	2.709	0.637	53.600	54.600
MP102	356	21/12/2016	08:48	magnetopause	out	maybe not fully crossed	-14.549	-78.039	-18.135	53.524	58.625	-18.135	81.428	1.795	0.831	0.483	57.100	62.000
MP103	356	21/12/2016	15:37	magnetopause	in		-14.795	-79.191	-18.144	-76.944	23.869	-18.144	82.579	1.792	2.841	0.464	57.600	63.000
MP104	357	22/12/2016	06:05	magnetopause	out		-15.310	-81.570	-18.141	82.866	-4.613	-18.141	84.954	1.786	-0.056	0.428	58.700	65.200
MP105	357	22/12/2016	06:08	magnetopause	in		-15.313	-81.583	-18.141	82.521	-8.977	-18.141	84.967	1.786	-0.108	0.427	58.700	65.200
MP106	357	22/12/2016	06:10	magnetopause	out		-15.313	-81.583	-18.141	82.521	-8.977	-18.141	84.967	1.786	-0.108	0.427	58.700	65.200

MP107	357	22/12/2016	09:09	magnetopause	in	maybe not fully crossed	-15.417	-82.060	-18.137	-35.321	-75.656	-18.137	85.443	1.785	-2.008	0.420	58.900	65.700
MP108	366	31/12/2016	11:38	magnetopause	out		-21.038	-104.823	-15.515	-54.345	-92.071	-15.514	108.033	1.715	-2.104	0.189	69.600	85.800
MP109	366	31/12/2016	18:00	magnetopause	in		-21.149	-105.184	-15.388	105.748	18.120	-15.388	108.387	1.713	0.170	0.187	69.800	86.000
MP110	1	01/01/2017	04:26	magnetopause	out		-21.327	-105.746	-15.175	106.795	-15.226	-15.175	108.937	1.711	-0.142	0.183	70.000	86.500
MP111	1	01/01/2017	09:23	magnetopause	in		-21.410	-106.001	-15.070	-106.665	17.805	-15.070	109.186	1.709	2.976	0.182	70.100	86.700
MP112	1	01/01/2017	16:39	magnetopause	out		-21.527	-106.354	-14.917	-4.642	-108.412	-14.917	109.532	1.707	-1.614	0.179	70.300	87.000
MP113	1	01/01/2017	22:09	magnetopause	in		-21.613	-106.610	-14.798	40.662	100.894	-14.798	109.781	1.706	1.188	0.178	70.400	87.200
MP114	2	02/01/2017	13:47	magnetopause	out		-21.845	-107.275	-14.455	-80.320	-74.390	-14.455	110.427	1.702	-2.395	0.174	70.700	87.700
MP115	4	04/01/2017	18:27	magnetopause	in		-22.507	-108.877	-13.210	-42.471	102.747	-13.210	111.961	1.689	1.963	0.166	71.400	88.900
MP116	11	11/01/2017	10:22	magnetopause	out		-23.304	-107.812	-8.763	34.280	104.840	-8.763	110.650	1.650	1.255	0.180	70.200	86.900
MP117	13	13/01/2017	03:18	magnetopause	in		-23.191	-106.085	-7.490	98.637	45.415	-7.490	108.848	1.640	0.431	0.195	69.200	85.000
MP118	24	24/01/2017	20:01	magnetopause	out		-17.731	-75.221	2.059	19.008	-74.908	2.059	77.310	1.544	-1.322	0.609	54.200	55.800
MP119	24	24/01/2017	20:36	magnetopause	in		-17.708	-75.112	2.079	-9.299	-76.609	2.079	77.199	1.544	-1.692	0.612	54.100	55.700
MP120	24	24/01/2017	21:18	magnetopause	out		-17.678	-74.973	2.105	-43.213	-63.766	2.105	77.057	1.543	-2.166	0.614	54.100	55.500
MP121	24	24/01/2017	22:38	magnetopause	in	maybe not fully crossed	-17.626	-74.723	2.151	-76.115	-10.036	2.151	76.804	1.543	-3.010	0.620	54.000	55.300
MP122	25	25/01/2017	00:23	magnetopause	out	maybe not fully crossed	-17.556	-74.394	2.211	-42.781	63.344	2.211	76.469	1.542	2.165	0.627	53.800	55.000
MP123	25	25/01/2017	17:53	magnetopause	in		-16.826	-70.971	2.811	-63.629	-35.655	2.811	72.992	1.532	-2.631	0.703	nan	nan
MP124	42	11/02/2017	01:42	magnetopause	out	maybe not fully crossed	-18.377	-71.730	-19.226	56.907	47.376	-19.226	76.501	1.825	0.694	0.657	53.200	53.700
MP125	42	11/02/2017	19:08	magnetopause	in		-19.279	-74.919	-19.363	-44.379	63.365	-19.363	79.746	1.816	2.182	0.591	54.500	56.600
MP126	50	19/02/2017	04:33	magnetopause	out		-26.188	-97.532	-18.467	-99.343	18.145	-18.467	102.661	1.752	2.961	0.279	64.300	76.200
MP127	50	19/02/2017	04:50	magnetopause	in		-26.195	-97.553	-18.463	-95.263	33.583	-18.463	102.683	1.752	2.803	0.279	64.300	76.200
MP128	50	19/02/2017	06:01	magnetopause	out		-26.229	-97.653	-18.447	-47.879	89.060	-18.447	102.783	1.751	2.064	0.278	64.400	76.300
MP129	50	19/02/2017	10:15	magnetopause	in	maybe not fully crossed	-26.352	-98.013	-18.388	82.219	-59.507	-18.388	103.146	1.750	-0.626	0.275	64.500	76.600
MP130	50	19/02/2017	10:50	magnetopause	out	maybe not fully crossed	-26.368	-98.062	-18.379	55.225	-85.216	-18.380	103.195	1.750	-0.996	0.274	64.500	76.600
MP131	53	22/02/2017	04:21	magnetopause	in	maybe not fully crossed	-28.035	-102.697	-17.298	5.394	106.318	-17.298	107.851	1.732	1.520	0.236	66.600	80.400
MP132	63	04/03/2017	20:49	magnetopause	out	maybe not fully crossed	-30.670	-106.103	-10.873	-88.433	66.168	-10.873	110.981	1.669	2.499	0.223	67.400	81.800
MP133	64	05/03/2017	08:24	magnetopause	in		-30.637	-105.723	-10.518	13.341	109.262	-10.518	110.575	1.666	1.449	0.226	67.100	81.400
MP134	67	08/03/2017	15:17	magnetopause	out		-30.031	-101.863	-7.977	-24.885	103.241	-7.977	106.497	1.646	1.807	0.265	65.000	77.500
MP135	68	09/03/2017	07:05	magnetopause	in	maybe not fully crossed	-29.823	-100.810	-7.443	-37.269	-98.301	-7.443	105.392	1.641	-1.933	0.276	64.400	76.400
MP136	68	09/03/2017	09:58	magnetopause	out	maybe not fully crossed	-29.781	-100.606	-7.344	-84.278	62.495	-7.344	105.178	1.641	2.504	0.279	64.300	76.200
MP137	68	09/03/2017	13:53	magnetopause	in	maybe not fully crossed	-29.724	-100.326	-7.211	104.606	2.509	-7.211	104.884	1.640	0.024	0.282	64.200	76.000
MP138	68	09/03/2017	14:57	magnetopause	out		-29.709	-100.253	-7.176	85.759	-59.823	-7.176	104.809	1.639	-0.609	0.282	64.200	75.900
MP139	68	09/03/2017	15:21	magnetopause	in		-29.702	-100.223	-7.162	67.175	-80.091	-7.162	104.777	1.639	-0.873	0.283	64.100	75.900
MP140	69	10/03/2017	00:50	magnetopause	out		-29.554	-99.515	-6.836	85.448	-58.951	-6.836	104.035	1.637	-0.604	0.290	63.800	75.200
MP141	69	10/03/2017	08:53	magnetopause	in		-29.419	-98.884	-6.557	87.305	54.967	-6.557	103.376	1.634	0.562	0.297	63.500	74.600
MP142	71	12/03/2017	13:14	magnetopause	out	maybe not fully crossed	-28.332	-94.152	-4.709	39.877	-89.873	-4.709	98.435	1.619	-1.153	0.354	61.100	70.100
MP143	71	12/03/2017	19:48	magnetopause	in		-28.169	-93.473	-4.472	55.811	80.099	-4.472	97.728	1.617	0.962	0.363	60.800	69.500
MP144	98	08/04/2017	15:02	magnetopause	out		-28.193	-84.014	-20.863	-52.364	71.493	-20.863	91.041	1.802	2.203	0.485	57.100	61.900
MP145	100	10/04/2017	00:05	magnetopause	in		-29.761	-88.082	-20.754	92.431	10.035	-20.753	95.263	1.790	0.108	0.426	58.700	65.300
MP146	101	11/04/2017	10:26	magnetopause	out		-31.226	-91.770	-20.515	-90.600	-34.473	-20.515	99.084	1.779	-2.778	0.379	60.200	68.300
MP147	102	12/04/2017	03:49	magnetopause	in		-31.907	-93.445	-20.351	32.281	-93.316	-20.351	100.817	1.774	-1.238	0.360	60.900	69.700
MP148	102	12/04/2017	21:17	magnetopause	out		-32.548	-94.994	-20.159	95.856	29.917	-20.159	102.419	1.769	0.303	0.343	61.600	71.000
MP149	103	13/04/2017	13:39	magnetopause	in	maybe not fully crossed	-33.117	-96.343	-19.955	-80.123	62.921	-19.955	103.812	1.764	2.476	0.329	62.100	72.000
MP150	109	19/04/2017	16:18	magnetopause	out		-36.773	-103.963	-17.274	-82.120	-73.598	-17.274	111.619	1.726	-2.411	0.262	65.100	77.700
MP151	110	20/04/2017	08:26	magnetopause	in		-37.019	-104.342	-16.899	110.675	-2.931	-16.899	111.996	1.722	-0.026	0.260	65.300	78.000
MP152	125	05/05/2017	13:14	magnetopause	out		-33.872	-89.079	-5.282	8.323	94.938	-5.283	95.448	1.626	1.483	0.473	57.400	62.600
MP153	126	06/05/2017	18:12	magnetopause	in	maybe not fully crossed	-32.756	-85.667	-4.161	-40.350	82.364	-4.161	91.811	1.616	2.026	0.529	55.900	59.600
MP154	126	06/05/2017	21:04	magnetopause	out	maybe not fully crossed	-32.635	-85.301	-4.046	89.857	16.337	-4.046	91.420	1.615	0.180	0.536	55.800	59.200
MP155	126	06/05/2017	23:57	magnetopause	in	maybe not fully crossed	-32.515	-84.941	-3.935	-3.918	-90.867	-3.935	91.036	1.614	-1.614	0.542	55.600	58.900
MP156	151	31/05/2017	13:02	magnetopause	out		-33.709	-81.687	-22.278	-68.169	56.231	-22.278	91.134	1.818	2.452	0.574	54.900	57.400
MP157	151	31/05/2017	21:38	magnetopause	in		-34.211	-82.768	-22.280	-89.049	-9.541	-22.280	92.289	1.815	-3.035	0.555	55.300	58.300
MP158	152	01/06/2017	18:17	magnetopause	out	maybe not fully crossed	-35.347	-85.193	-22.246	-86.392	32.304	-22.246	94.879	1.807	2.784	0.516	56.300	60.200
MP159	153	02/06/2017	01:25	magnetopause	in	maybe not fully crossed	-35.725	-85.991	-22.222	-16.902	-91.570	-22.222	95.732	1.805	-1.753	0.504	56.600	60.900
MP160	153	02/06/2017	20:46	magnetopause	out		-36.703	-88.030	-22.129	13.712	-94.385	-22.129	97.909	1.799	-1.427	0.474	57.300	62.500
MP161	153	02/06/2017	23:46	magnetopause	in		-36.849	-88.333	-22.111	-94.091	17.529	-22.111	98.231	1.798	2.957	0.470	57.500	62.700
MP162	157	06/06/2017	00:18	magnetopause	out		-39.952	-94.528	-21.408	56.431	85.717	-21.408	104.834	1.776	0.989	0.391	59.800	67.500
MP163	157	06/06/2017	00:30	magnetopause	in		-39.959	-94.540	-21.406	65.153	79.307	-21.406	104.846	1.776	0.883	0.391	59.800	67.500
MP164	167	16/06/2017	08:18	magnetopause	out		-44.844	-101.628	-16.071	53.878	97.141	-16.071	112.238	1.714	1.064	0.332	62.000	71.800

MP165	167	16/06/2017	09:58	magnetopause	in		-44.848	-101.607	-16.023	111.060	1.029	-16.023	112.215	1.714	0.009	0.332	62.000	71.800
MP166	167	16/06/2017	10:46	magnetopause	out		-44.849	-101.598	-16.001	99.237	-49.854	-16.001	112.203	1.714	-0.466	0.332	62.000	71.800
MP167	168	17/06/2017	14:12	magnetopause	in		-44.851	-101.123	-15.189	57.229	94.669	-15.189	111.661	1.707	1.027	0.340	61.700	71.200
MP168	169	18/06/2017	09:02	magnetopause	out		-44.788	-100.655	-14.609	-10.957	109.623	-14.609	111.134	1.703	1.670	0.347	61.400	70.600
MP169	169	18/06/2017	23:42	magnetopause	in		-44.703	-100.210	-14.146	25.999	-106.604	-14.146	110.637	1.699	-1.332	0.354	61.200	70.200
MP170	170	19/06/2017	01:44	magnetopause	out	maybe not fully crossed	-44.688	-100.141	-14.079	-96.700	-51.714	-14.079	110.559	1.698	-2.651	0.355	61.100	70.100
MP171	170	19/06/2017	03:35	magnetopause	in		-44.675	-100.079	-14.020	-85.935	68.020	-14.020	110.491	1.698	2.472	0.355	61.100	70.000
MP172	178	27/06/2017	21:27	magnetopause	out		-39.372	-85.043	-6.337	-0.601	93.713	-6.337	93.929	1.638	1.577	0.597	54.400	56.300
MP173	179	28/06/2017	12:58	magnetopause	in	maybe not fully crossed	-38.635	-83.220	-5.698	-38.614	-83.230	-5.698	91.928	1.633	-2.005	0.633	53.700	54.700
MP174	179	28/06/2017	14:48	magnetopause	out	maybe not fully crossed	-38.545	-82.998	-5.623	-91.485	2.218	-5.623	91.684	1.632	3.117	0.637	53.600	54.500
MP175	179	28/06/2017	18:10	magnetopause	in		-38.378	-82.590	-5.485	48.664	76.980	-5.485	91.237	1.631	1.007	0.645	53.500	54.200
MP176	179	28/06/2017	21:11	magnetopause	out		-38.226	-82.219	-5.361	56.915	-70.583	-5.361	90.829	1.630	-0.892	0.653	53.300	53.900
MP177	180	29/06/2017	01:58	magnetopause	in	maybe not fully crossed	-37.977	-81.611	-5.160	-62.031	65.228	-5.160	90.162	1.628	2.331	0.666	53.100	53.400
MP178	180	29/06/2017	02:18	magnetopause	out	maybe not fully crossed	-37.959	-81.568	-5.146	-46.968	76.735	-5.146	90.116	1.628	2.120	0.666	53.100	53.300
MP179	180	29/06/2017	02:40	magnetopause	in	maybe not fully crossed	-37.942	-81.526	-5.132	-29.837	84.828	-5.132	90.069	1.628	1.909	0.667	53.000	53.300
MP180	180	29/06/2017	02:53	magnetopause	out	maybe not fully crossed	-37.929	-81.494	-5.121	-16.088	88.437	-5.122	90.034	1.628	1.751	0.668	53.000	53.300
MP181	180	29/06/2017	02:58	magnetopause	in	maybe not fully crossed	-37.925	-81.484	-5.118	-11.401	89.151	-5.118	90.022	1.628	1.698	0.668	53.000	53.200
MP182	180	29/06/2017	03:43	magnetopause	out	maybe not fully crossed	-37.885	-81.388	-5.087	30.582	84.404	-5.087	89.917	1.627	1.223	0.670	53.000	53.200
MP183	180	29/06/2017	04:05	magnetopause	in	maybe not fully crossed	-37.868	-81.345	-5.073	47.559	76.086	-5.073	89.871	1.627	1.012	0.671	53.000	53.100
MP184	180	29/06/2017	04:17	magnetopause	out	maybe not fully crossed	-37.859	-81.324	-5.066	55.294	70.636	-5.066	89.847	1.627	0.907	0.672	53.000	53.100
MP185	180	29/06/2017	05:14	magnetopause	in	maybe not fully crossed	-37.806	-81.195	-5.024	86.235	24.196	-5.024	89.706	1.627	0.274	0.674	52.900	53.000
MP186	180	29/06/2017	05:41	magnetopause	out		-37.784	-81.142	-5.007	89.503	0.874	-5.007	89.648	1.627	0.010	0.675	52.900	53.000
MP187	180	29/06/2017	05:44	magnetopause	in		-37.779	-81.131	-5.003	89.413	-3.847	-5.003	89.636	1.627	-0.043	0.676	nan	nan
MP188	180	29/06/2017	07:46	magnetopause	out	maybe not fully crossed	-37.673	-80.872	-4.920	23.076	-86.180	-4.920	89.352	1.626	-1.309	0.681	nan	nan
MP189	180	29/06/2017	09:31	magnetopause	in	maybe not fully crossed	-37.578	-80.645	-4.846	-66.622	-58.968	-4.846	89.102	1.625	-2.417	0.686	nan	nan
MP190	220	08/08/2017	08:28	magnetopause	out		-51.510	-98.051	-17.746	110.567	-6.494	-17.746	112.170	1.730	-0.059	0.417	59.000	65.900
MP191	220	08/08/2017	08:40	magnetopause	in		-51.510	-98.049	-17.741	109.267	-18.102	-17.741	112.168	1.730	-0.164	0.417	59.000	65.900
MP192	225	13/08/2017	00:52	magnetopause	out		-50.588	-94.565	-14.122	-50.397	-94.666	-14.122	108.171	1.702	-2.060	0.478	57.200	62.300
MP193	225	13/08/2017	03:43	magnetopause	in		-50.534	-94.420	-14.019	-77.262	74.157	-14.019	108.006	1.701	2.377	0.481	57.200	62.100
MP194	257	14/09/2017	23:21	magnetopause	out	maybe not fully crossed	-45.232	-77.930	-25.155	88.947	14.408	-25.155	93.551	1.843	0.161	0.766	nan	nan
MP195	258	15/09/2017	18:42	magnetopause	in	maybe not fully crossed	-46.564	-79.961	-25.179	81.765	43.319	-25.179	95.896	1.836	0.487	0.724	nan	nan
MP196	274	01/10/2017	05:48	magnetopause	out		-57.857	-93.646	-18.705	-47.369	-99.363	-18.705	111.655	1.739	-2.016	0.532	55.900	59.400
MP197	275	02/10/2017	18:29	magnetopause	in		-57.588	-92.681	-17.528	108.613	-10.466	-17.528	110.515	1.730	-0.096	0.553	55.400	58.400
MP198	275	02/10/2017	18:52	magnetopause	out		-57.585	-92.671	-17.517	104.001	-32.981	-17.517	110.502	1.730	-0.307	0.553	55.400	58.400
MP199	275	02/10/2017	22:39	magnetopause	in		-57.541	-92.546	-17.389	-100.045	-43.206	-17.389	110.354	1.729	-2.734	0.556	55.300	58.200
MP200	276	03/10/2017	01:54	magnetopause	out		-57.503	-92.436	-17.280	8.598	108.522	-17.280	110.225	1.728	1.492	0.558	55.300	58.100
MP201	276	03/10/2017	08:56	magnetopause	in		-57.412	-92.190	-17.043	-106.403	-21.759	-17.043	109.934	1.726	-2.940	0.563	55.100	57.900
MP202	314	10/11/2017	11:18	magnetopause	out	maybe not fully crossed	-56.039	-82.163	-26.521	-80.503	58.398	-26.521	102.930	1.831	2.514	0.749	nan	nan
MP203	314	10/11/2017	12:56	magnetopause	in	maybe not fully crossed	-56.130	-82.275	-26.511	5.891	99.424	-26.511	103.066	1.831	1.512	0.747	nan	nan
MP204	6	06/01/2018	08:43	magnetopause	out	maybe not fully crossed	-65.768	-82.730	-27.038	48.536	-93.883	-27.038	109.090	1.821	-1.094	0.821	nan	nan
MP205	6	06/01/2018	11:19	magnetopause	in	maybe not fully crossed	-65.872	-82.827	-26.999	-96.953	-42.421	-26.999	109.217	1.821	-2.729	0.820	nan	nan
MP206	167	16/06/2018	13:24	magnetopause	out	maybe not fully crossed	-82.206	-69.083	-30.792	104.771	23.524	-30.792	111.707	1.850	0.221	1.546	nan	nan
MP207	167	16/06/2018	13:35	magnetopause	in	maybe not fully crossed	-82.211	-69.085	-30.789	106.671	12.359	-30.789	111.711	1.850	0.115	1.546	nan	nan
MP208	167	16/06/2018	13:51	magnetopause	out	maybe not fully crossed	-82.219	-69.089	-30.784	107.294	-4.609	-30.784	111.718	1.850	-0.043	1.546	nan	nan
MP209	167	16/06/2018	14:03	magnetopause	in	maybe not fully crossed	-82.227	-69.092	-30.780	105.235	-21.464	-30.780	111.725	1.850	-0.201	1.546	nan	nan
MP210	167	16/06/2018	14:28	magnetopause	out	maybe not fully crossed	-82.240	-69.098	-30.772	96.010	-48.167	-30.772	111.736	1.850	-0.465	1.546	nan	nan
MP211	167	16/06/2018	15:13	magnetopause	in	maybe not fully crossed	-82.263	-69.108	-30.758	63.382	-86.752	-30.758	111.755	1.850	-0.940	1.546	nan	nan
MP212	167	16/06/2018	16:14	magnetopause	out	maybe not fully crossed	-82.294	-69.121	-30.739	-0.229	-107.471	-30.739	111.781	1.849	-1.573	1.546	nan	nan
MP213	167	16/06/2018	17:09	magnetopause	in	maybe not fully crossed	-82.322	-69.133	-30.722	-59.136	-89.774	-30.722	111.804	1.849	-2.153	1.546	nan	nan
MP214	216	04/08/2018	06:30	magnetopause	out	maybe not fully crossed	-81.227	-60.943	-33.601	3.763	101.478	-33.601	106.963	1.890	1.534	2.028	nan	nan
MP215	216	04/08/2018	08:51	magnetopause	in	maybe not fully crossed	-81.369	-61.021	-33.585	101.546	5.740	-33.585	107.110	1.890	0.056	2.025	nan	nan
MP216	359	25/12/2021	19:45	magnetopause	out		-50.810	67.232	-47.743	50.583	-67.403	-47.743	96.857	2.086	-0.927	1.022	nan	nan
MP217	360	26/12/2021	12:10	magnetopause	in		-50.377	66.959	-46.894	26.790	79.395	-46.894	96.022	2.081	1.245	1.043	nan	nan
MP218	47	16/02/2022	06:25	magnetopause	out	maybe not fully crossed	-35.828	57.448	-32.540	66.295	13.742	-32.540	75.118	2.019	0.204	1.572	nan	nan
MP219	47	16/02/2022	11:15	magnetopause	in		-35.436	56.919	-32.012	-64.332	-18.893	-32.012	74.299	2.016	-2.856	1.610	nan	nan
MP220	78	19/03/2022	08:17	magnetopause	out		-42.546	71.335	-53.552	63.877	-53.090	-53.552	98.826	2.143	-0.693	0.694	nan	nan
MP221	78	19/03/2022	22:59	magnetopause	in		-42.482	71.530	-53.111	-68.316	47.478	-53.111	98.702	2.139	2.534	0.695	nan	nan
MP222	359	25/12/2022	20:11	magnetopause	out	maybe not fully crossed	-9.565	56.417	-54.489	17.767	54.390	-54.492	79.015	2.332	1.255	0.629	53.800	54.900

MP223	359	25/12/2022	20:28	magnetopause	in	maybe not fully crossed	-9.568	56.454	-54.507	28.785	49.493	-54.510	79.054	2.332	1.044	0.628	53.800	55.000
MP224	360	26/12/2022	06:23	magnetopause	out	maybe not fully crossed	-9.649	57.531	-55.018	29.116	50.545	-55.021	80.186	2.327	1.048	0.590	54.600	56.600
MP225	359	25/12/2022	12:13	magnetopause	in		-9.493	55.519	-54.045	56.315	-0.869	-54.048	78.060	2.336	-0.015	0.662	53.100	53.500
MP226	47	16/02/2022	07:17	magnetopause	out	maybe not fully crossed	-35.761	57.357	-32.450	64.092	-21.471	-32.450	74.978	2.018	-0.323	1.579	nan	nan
MP227	47	16/02/2022	11:15	magnetopause	in		-35.436	56.919	-32.012	-64.332	-18.893	-32.012	74.299	2.016	-2.856	1.610	nan	nan
MP228	78	19/03/2022	08:20	magnetopause	out	maybe not fully crossed	-42.546	71.336	-53.550	60.989	-56.385	-53.550	98.826	2.143	-0.746	0.694	nan	nan
MP229	78	19/03/2022	22:59	magnetopause	in	maybe not fully crossed	-42.482	71.530	-53.111	-68.316	47.478	-53.111	98.702	2.139	2.534	0.695	nan	nan
MP230	128	08/05/2022	12:52	magnetopause	out		-34.772	70.862	-46.883	-78.328	-9.756	-46.883	91.807	2.107	-3.018	0.716	nan	nan
MP231	128	08/05/2022	15:42	magnetopause	in		-34.679	70.737	-46.685	7.799	78.393	-46.685	91.574	2.106	1.472	0.721	nan	nan
MP232	158	07/06/2022	21:52	magnetopause	out		-31.399	67.784	-56.902	67.114	32.806	-56.902	93.906	2.222	0.455	0.606	54.200	55.900
MP233	159	08/06/2022	06:56	magnetopause	in		-31.582	68.396	-57.022	41.535	62.851	-57.022	94.482	2.219	0.987	0.591	54.600	56.600
MP234	159	08/06/2022	11:12	magnetopause	out		-31.663	68.672	-57.069	-10.043	-74.950	-57.069	94.737	2.217	-1.704	0.584	54.700	56.900
MP235	159	08/06/2022	11:28	magnetopause	in		-31.669	68.693	-57.072	-25.528	-71.203	-57.072	94.757	2.217	-1.915	0.584	54.700	56.900
MP236	159	08/06/2022	11:40	magnetopause	out		-31.672	68.704	-57.074	-32.891	-68.128	-57.074	94.767	2.217	-2.021	0.584	54.700	56.900
MP237	159	08/06/2022	16:33	magnetopause	in	maybe not fully crossed	-31.761	69.013	-57.121	31.054	69.334	-57.121	95.050	2.215	1.150	0.577	54.900	57.300
MP238	160	09/06/2022	00:54	magnetopause	out		-31.902	69.519	-57.184	-42.298	63.730	-57.184	95.502	2.213	2.157	0.565	55.100	57.800
MP239	160	09/06/2022	10:12	magnetopause	in		-32.044	70.051	-57.231	-65.341	40.798	-57.231	95.965	2.210	2.583	0.554	55.400	58.300
MP240	160	09/06/2022	12:45	magnetopause	out		-32.081	70.194	-57.239	45.029	62.680	-57.239	96.087	2.209	0.948	0.551	55.400	58.500
MP241	161	10/06/2022	15:44	magnetopause	in		-32.401	71.552	-57.213	-71.104	33.373	-57.213	97.174	2.200	2.703	0.525	56.000	59.800
MP242	168	17/06/2022	13:21	magnetopause	out		-31.832	74.302	-52.727	-2.511	-80.794	-52.727	96.510	2.149	-1.602	0.520	56.200	60.000
MP243	169	18/06/2022	17:45	magnetopause	in		-31.302	73.778	-51.230	58.983	-54.260	-51.230	95.119	2.140	-0.744	0.545	55.600	58.800

Supporting Information for "Effect of a magnetosphere compression on Jovian radio emissions: an in situ case study using Juno data"

Table S1 – List of Magnetopause boundary crossings from Juno/Waves and Juno/MAG measurements

All this information is also available directly in the file:
boundary_crossings_caracteristics_list.csv (File F1).

Table S 2: List of bow shock crossings, as measured by Juno/Waves and Juno/MAG. For each crossing, number of the crossing (MP#), day of the year (DOY), date (day/month/year format) and time (hours:minutes format) are indicated, as well as the boundary crossed (bow shock in this case), the direction of the crossing (in: from the magnetosheath to the solar wind; out: from the solar wind to the magnetosheath). Position of the crossings are given in the Cartesian Jupiter-Heliospheric (JH) and the International Astronomical Union (IAU) coordinate systems, and IAU spherical coordinates system. Finally, the dynamic pressure of the solar wind, and the standoff distance of the magnetopause and the bow shock, derived from the model of Joy et al. (2002), are given in the last three columns. Note that the list of crossings up to 2016-11-26 was provided by Hospodarsky et al. (2017).

(1) JSS coordinate system: this coordinate system is defined such that X points towards the Sun, the Z axis is along the Jovian spin axis, positive in the direction of angular momentum, and Y completes the righthanded set (positive towards dusk).
(2) IAU coordinate system: this coordinate system is defined such that Z-axis is along the Jovian spin axis, X-axis is defined by 0° latitude on the System III longitude λ_{III} =0° (prime meridian). The Y-axis completes the orthogonal right-handed system.
(3) Values determined using the Joy et al. (2002)'s model
Note: the nan values in the 'standoff distance' columns are given when the bow shock standoff distance calculated from the Joy et al. (2002) model is smaller than that of the magnetopause (non-physical).

#	Day of Year	Date (day/month/year)	Time (HH:MM)	Boundary	in/out	Notes	x (JSS[1])	y (JSS[1])	z (JSS[1])	x (IAU[2])	y (IAU[2])	z (IAU[2])	r (IAU[2])	θ (IAU[2])	ϕ (IAU[2])	Dynamic Pressure[3] (nPa)	Magnetopause Standoff Distance[3] (Jovian radius)	Bow Shock Standoff Distance[3] (Jovian radius)
BS1	176	24/06/2016	08:16	bow shock	in		6.723	-124.901	27.698	-120.972	31.800	27.698	128.112	1.353	2.885	0.212	68.000	83.000
BS2	199	17/07/2016	15:33	bow shock	out		1.982	-91.079	-13.748	72.872	54.671	-13.748	92.132	1.721	0.644	0.617	54.000	55.400
BS3	200	18/07/2016	01:22	bow shock	in		1.961	-92.393	-13.618	67.341	63.289	-13.618	93.412	1.717	0.754	0.597	54.400	56.300
BS4	200	18/07/2016	02:21	bow shock	out		1.959	-92.525	-13.605	91.866	11.200	-13.604	93.541	1.717	0.121	0.595	54.500	56.400
BS5	200	18/07/2016	21:18	bow shock	in		1.911	-94.939	-13.331	75.055	58.171	-13.331	95.890	1.710	0.659	0.560	55.200	58.100
BS6	207	25/07/2016	22:05	bow shock	out		1.201	-109.406	-10.023	87.577	65.585	-10.023	109.870	1.662	0.643	0.392	59.800	67.500
BS7	207	25/07/2016	22:50	bow shock	in		1.197	-109.445	-10.005	107.911	18.300	-10.005	109.908	1.662	0.168	0.392	59.800	67.500
BS8	209	27/07/2016	09:34	bow shock	out		1.005	-111.026	-9.178	-109.614	-17.680	-9.178	111.409	1.653	-2.982	0.378	60.300	68.400
BS9	209	27/07/2016	09:37	bow shock	in		1.005	-111.026	-9.178	-109.614	-17.680	-9.178	111.409	1.653	-2.982	0.378	60.300	68.400
BS10	209	27/07/2016	09:47	bow shock	out		1.004	-111.033	-9.174	-110.873	-6.038	-9.174	111.416	1.653	-3.087	0.378	60.300	68.400
BS11	209	27/07/2016	11:38	bow shock	in		0.993	-111.107	-9.128	-44.475	101.822	-9.128	111.486	1.653	1.983	0.377	60.300	68.500
BS12	209	27/07/2016	11:45	bow shock	out		0.993	-111.110	-9.126	-39.045	104.029	-9.126	111.489	1.653	1.930	0.377	60.300	68.500
BS13	209	27/07/2016	11:51	bow shock	in		0.992	-111.114	-9.124	-33.506	105.946	-9.124	111.492	1.653	1.877	0.377	60.300	68.500
BS14	209	27/07/2016	23:41	bow shock	out		0.925	-111.542	-8.833	87.504	69.176	-8.833	111.895	1.650	0.669	0.374	60.400	68.700
BS15	210	28/07/2016	10:28	bow shock	in		0.862	-111.890	-8.563	111.401	10.488	-8.563	112.221	1.647	0.094	0.371	60.500	68.900
BS16	210	28/07/2016	11:11	bow shock	out		0.858	-111.910	-8.546	105.941	-36.072	-8.546	112.240	1.647	-0.328	0.371	60.500	68.900
BS17	210	28/07/2016	11:36	bow shock	in		0.855	-111.922	-8.536	92.882	-62.453	-8.536	112.251	1.647	-0.592	0.371	60.500	68.900
BS18	210	28/07/2016	12:03	bow shock	out		0.852	-111.937	-8.523	68.836	-88.274	-8.523	112.265	1.647	-0.908	0.371	60.500	68.900
BS19	210	28/07/2016	12:10	bow shock	in		0.852	-111.940	-8.521	64.087	-91.783	-8.521	112.267	1.647	-0.961	0.371	60.500	68.900
BS20	210	28/07/2016	17:57	bow shock	out		0.818	-112.104	-8.376	-12.417	111.418	-8.376	112.420	1.645	1.682	0.369	60.600	69.000
BS21	210	28/07/2016	20:39	bow shock	in		0.802	-112.179	-8.307	111.985	-6.633	-8.307	112.488	1.645	-0.059	0.369	60.600	69.100
BS22	210	28/07/2016	20:56	bow shock	out		0.801	-112.185	-8.301	109.547	-24.201	-8.301	112.495	1.645	-0.217	0.369	60.600	69.100
BS23	210	28/07/2016	21:02	bow shock	in		0.800	-112.188	-8.298	108.120	-29.945	-8.298	112.497	1.645	-0.270	0.369	60.600	69.100
BS24	221	08/08/2016	01:39	bow shock	out		-0.668	-108.077	-1.528	-36.783	101.627	-1.528	108.090	1.585	1.918	0.429	58.600	65.100
BS25	221	08/08/2016	03:39	bow shock	in		-0.679	-107.953	-1.469	85.816	65.499	-1.469	107.966	1.584	0.652	0.430	58.600	65.000
BS26	221	08/08/2016	22:40	bow shock	out		-0.782	-106.705	-0.914	39.664	99.062	-0.914	106.712	1.579	1.190	0.446	58.100	64.100
BS27	222	09/08/2016	03:22	bow shock	in		-0.807	-106.376	-0.777	-20.466	-104.392	-0.777	106.382	1.578	-1.764	0.450	58.000	63.900
BS28	222	09/08/2016	16:02	bow shock	out		-0.873	-105.442	-0.406	-98.741	36.999	-0.406	105.446	1.575	2.783	0.462	57.700	63.200
BS29	222	09/08/2016	20:37	bow shock	in		-0.896	-105.088	-0.271	104.355	-12.424	-0.271	105.092	1.573	-0.118	0.467	57.500	62.900
BS30	222	09/08/2016	23:10	bow shock	out		-0.909	-104.885	-0.195	-19.102	-103.135	-0.195	104.889	1.573	-1.754	0.470	57.500	62.700
BS31	223	10/08/2016	19:45	bow shock	in		-1.009	-103.166	0.408	-62.229	-82.291	0.408	103.172	1.567	-2.218	0.493	56.900	61.500
BS32	223	10/08/2016	21:56	bow shock	out		-1.019	-102.975	0.472	-92.803	44.637	0.472	102.981	1.566	2.693	0.495	56.800	61.300
BS33	223	10/08/2016	23:39	bow shock	in		-1.027	-102.819	0.523	-1.502	102.813	0.523	102.825	1.566	1.585	0.497	56.700	61.200
BS34	223	10/08/2016	23:49	bow shock	out		-1.028	-102.804	0.528	9.333	102.384	0.528	102.810	1.566	1.480	0.498	56.700	61.200
BS35	224	11/08/2016	00:03	bow shock	in		-1.029	-102.781	0.535	25.348	99.612	0.535	102.788	1.566	1.322	0.498	56.700	61.200
BS36	224	11/08/2016	00:12	bow shock	out		-1.029	-102.774	0.538	30.563	98.130	0.538	102.781	1.566	1.269	0.498	56.700	61.200
BS37	224	11/08/2016	01:38	bow shock	in		-1.036	-102.639	0.582	97.457	32.216	0.582	102.646	1.565	0.319	0.500	56.700	61.100
BS38	316	11/11/2016	02:36	bow shock	out		-14.518	-109.325	-12.489	-109.974	8.265	-12.489	110.989	1.684	3.067	0.550	55.400	58.500
BS39	316	11/11/2016	02:42	bow shock	in		-14.519	-109.328	-12.487	-109.388	14.053	-12.487	110.992	1.684	3.014	0.550	55.400	58.500
BS40	316	11/11/2016	02:58	bow shock	out		-14.523	-109.340	-12.479	-104.030	36.658	-12.479	111.004	1.683	2.803	0.550	55.500	58.500
BS41	316	11/11/2016	04:17	bow shock	in		-14.537	-109.385	-12.450	-47.067	99.805	-12.450	111.047	1.683	2.011	0.550	55.500	58.500
BS42	316	11/11/2016	04:18	bow shock	out		-14.538	-109.388	-12.448	-41.740	102.151	-12.448	111.050	1.683	1.959	0.550	55.500	58.500
BS43	316	11/11/2016	04:47	bow shock	in		-14.542	-109.403	-12.438	-13.664	109.516	-12.438	111.064	1.683	1.695	0.550	55.500	58.500
BS44	316	11/11/2016	04:49	bow shock	out		-14.543	-109.406	-12.436	-7.870	110.087	-12.436	111.066	1.683	1.642	0.549	55.500	58.600
BS45	316	11/11/2016	05:01	bow shock	in		-14.545	-109.412	-12.432	3.768	110.310	-12.432	111.072	1.683	1.537	0.549	55.500	58.600
BS46	316	11/11/2016	23:15	bow shock	out		-14.737	-110.004	-11.996	-92.091	61.945	-11.996	111.633	1.678	2.549	0.544	55.600	58.800

BS47	316	11/11/2016	23:16	bow shock	in		-14.737	-110.004	-11.996	-92.091	61.945	-11.996	111.633	1.678	2.549	0.544	55.600	58.800
BS48	316	11/11/2016	23:18	bow shock	out		-14.738	-110.006	-11.994	-88.698	66.717	-11.994	111.635	1.678	2.497	0.544	55.600	58.800
BS49	316	11/11/2016	23:21	bow shock	in		-14.738	-110.006	-11.994	-88.698	66.717	-11.994	111.635	1.678	2.497	0.544	55.600	58.800
BS50	328	23/11/2016	16:49	bow shock	out		-15.604	-104.129	-3.950	102.842	22.579	-3.950	105.365	1.608	0.216	0.659	53.200	53.600
BS51	328	23/11/2016	16:54	bow shock	in		-15.603	-104.123	-3.948	103.884	17.123	-3.948	105.360	1.608	0.163	0.659	53.200	53.600
BS52	2	02/01/2017	16:31	bow shock	out		-21.884	-107.383	-14.393	-59.777	91.852	-14.393	110.532	1.701	2.148	0.672	53.000	53.100
BS53	2	02/01/2017	17:39	bow shock	in		-21.901	-107.429	-14.367	17.646	108.209	-14.367	110.576	1.701	1.409	0.671	53.000	53.100
BS54	3	03/01/2017	03:40	bow shock	out		-22.039	-107.794	-14.138	22.849	107.626	-14.138	110.929	1.699	1.362	0.667	53.000	53.300
BS55	3	03/01/2017	20:25	bow shock	in		-22.254	-108.328	-13.745	-108.755	-20.061	-13.745	111.441	1.694	-2.959	0.661	53.200	53.500
BS56	4	04/01/2017	00:08	bow shock	out		-22.300	-108.433	-13.655	64.396	90.046	-13.655	111.542	1.694	0.950	0.660	53.200	53.600
BS57	4	04/01/2017	02:09	bow shock	in		-22.323	-108.488	-13.607	105.271	-34.438	-13.607	111.594	1.693	-0.316	0.659	53.200	53.600
BS58	11	11/01/2017	13:05	bow shock	out		-23.300	-107.715	-8.679	97.437	-51.494	-8.679	110.548	1.649	-0.486	0.696	nan	nan
BS59	11	11/01/2017	15:16	bow shock	in		-23.297	-107.637	-8.613	-31.179	-105.624	-8.613	110.466	1.649	-1.858	0.697	nan	nan
BS60	11	11/01/2017	15:17	bow shock	out		-23.297	-107.637	-8.613	-31.179	-105.624	-8.613	110.466	1.649	-1.858	0.697	nan	nan
BS61	11	11/01/2017	15:20	bow shock	in		-23.297	-107.634	-8.610	-36.704	-103.830	-8.610	110.463	1.649	-1.911	0.697	nan	nan
BS62	11	11/01/2017	15:40	bow shock	out		-23.297	-107.622	-8.600	-57.632	-93.828	-8.600	110.450	1.649	-2.122	0.698	nan	nan
BS63	11	11/01/2017	19:38	bow shock	in		-23.290	-107.472	-8.477	-6.427	109.779	-8.477	110.293	1.648	1.629	0.700	nan	nan
BS64	11	11/01/2017	21:09	bow shock	out		-23.287	-107.414	-8.431	85.486	69.082	-8.431	110.233	1.647	0.680	0.702	nan	nan
BS65	11	11/01/2017	22:36	bow shock	in		-23.284	-107.359	-8.388	107.274	-23.672	-8.388	110.175	1.647	-0.217	0.703	nan	nan
BS66	12	12/01/2017	03:34	bow shock	out		-23.273	-107.159	-8.233	-106.489	26.169	-8.233	109.966	1.646	2.901	0.707	nan	nan
BS67	12	12/01/2017	03:39	bow shock	in		-23.273	-107.156	-8.231	-104.958	31.747	-8.231	109.963	1.646	2.848	0.707	nan	nan
BS68	12	12/01/2017	03:47	bow shock	out		-23.273	-107.152	-8.228	-103.134	37.236	-8.228	109.958	1.646	2.795	0.707	nan	nan
BS69	12	12/01/2017	04:00	bow shock	in		-23.272	-107.142	-8.220	-95.968	53.020	-8.220	109.948	1.646	2.637	0.707	nan	nan
BS70	12	12/01/2017	04:30	bow shock	out		-23.271	-107.121	-8.205	-74.682	80.244	-8.205	109.926	1.646	2.320	0.707	nan	nan
BS71	12	12/01/2017	08:39	bow shock	in		-23.260	-106.946	-8.076	103.976	-34.169	-8.076	109.744	1.644	-0.318	0.711	nan	nan
BS72	12	12/01/2017	09:14	bow shock	out		-23.258	-106.921	-8.057	84.614	-69.380	-8.057	109.718	1.644	-0.687	0.711	nan	nan
BS73	12	12/01/2017	09:33	bow shock	in		-23.257	-106.907	-8.047	68.195	-85.553	-8.047	109.703	1.644	-0.898	0.711	nan	nan
BS74	12	12/01/2017	10:57	bow shock	out		-23.253	-106.849	-8.006	-18.621	-107.753	-8.006	109.643	1.644	-1.742	0.713	nan	nan
BS75	12	12/01/2017	14:05	bow shock	in		-23.243	-106.709	-7.907	-89.823	62.121	-7.907	109.497	1.643	2.537	0.715	nan	nan

Supporting Information for “Effect of a magnetosphere compression on Jovian radio emissions: an in situ case study using Juno data”

File F1 – List of Magnetopause boundary crossings from Juno/Waves and Juno/MAG measurements

This file (boundary_crossings_caracteristics_MP.csv) contains the same information as Table S1, in csv format.

File F2 – List of bow shock crossings from Juno/Waves and Juno/MAG measurements

This file (boundary_crossings_caracteristics_BS.csv) contains the same information as Table S2, in csv format.

Figure S1 – 3D projection of the Magnetopause and Bow Shock crossings

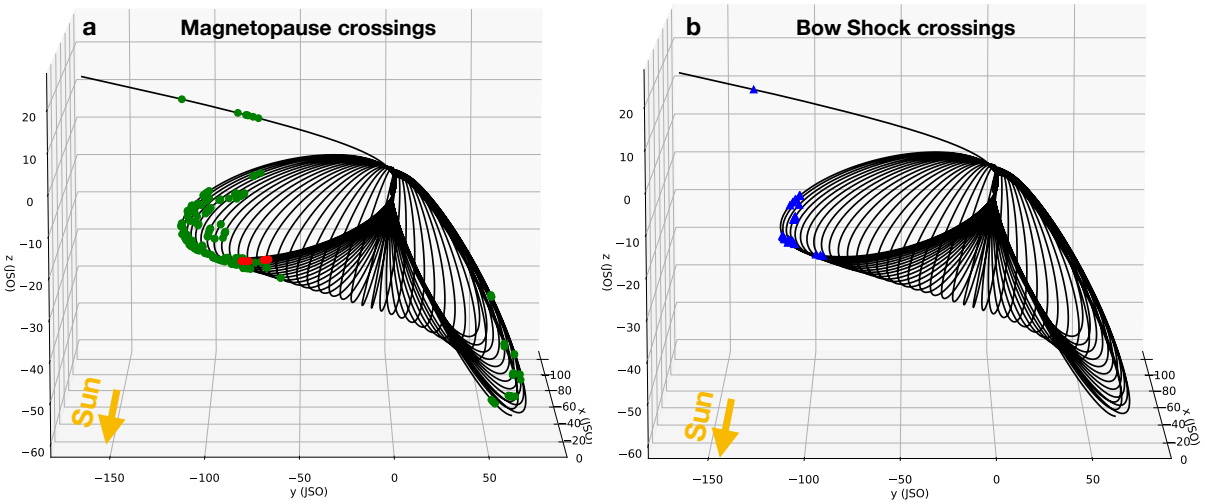

Figure S1: 3D projection of the Juno trajectory, with the (a) magnetopause and (b) bow-shock crossings overplotted. The magnetopause crossings studied in this article (see Figure 3 in the main article) are highlighted in red in panel (a). The coordinates used here are the Jupiter-Sun-Orbit (JSO) coordinate system. In this system, X is aligned with the Jupiter-Sun vector, Y indicates the Sun's motion in Jupiter frame, and Z close the system.

Figure S2 – Statistical distributions based on Magnetosphere boundaries crossings

Supporting Information for "Effect of a magnetosphere compression on Jovian radio emissions: an in situ case study using Juno data"

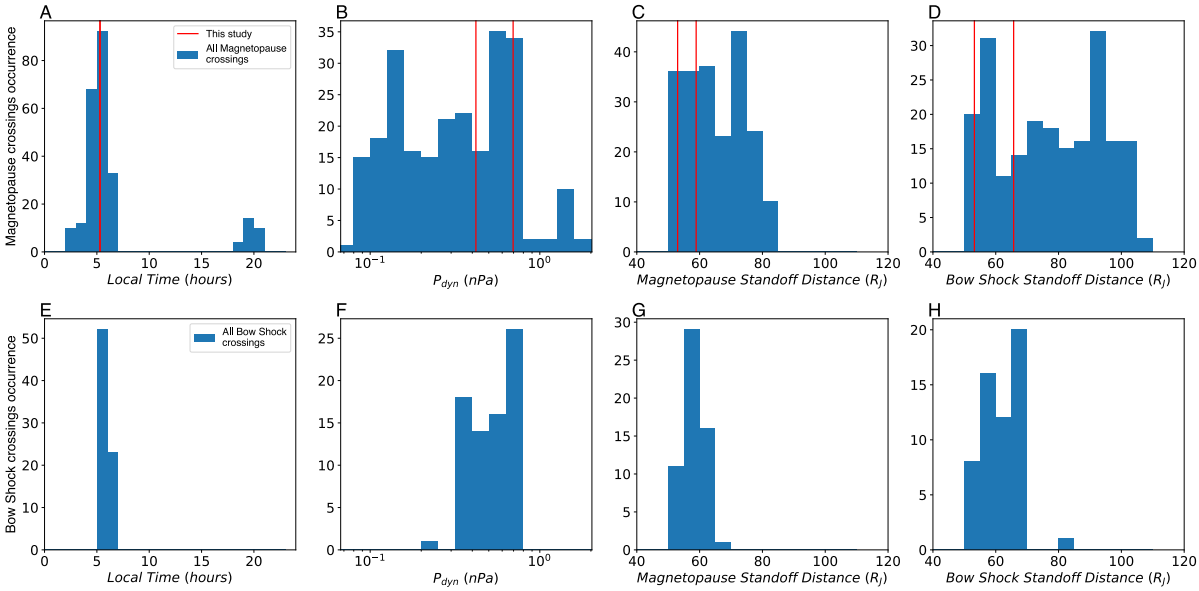

Figure S2: Statistical distributions based on (A-D) magnetopause and (E-H) bow shock crossings. (A,E) Local Time distribution. (B,F) Solar wind dynamic pressure P_{dyn} distribution. (C,G) Magnetopause standoff distance distribution. (D,H) Bow shock standoff distance distribution. The red lines in panels (A-D) show the position in the distribution of the two compressions studied in the main article.

Figure S3 – Solar wind characteristics from Tao et al. (2005)'s model

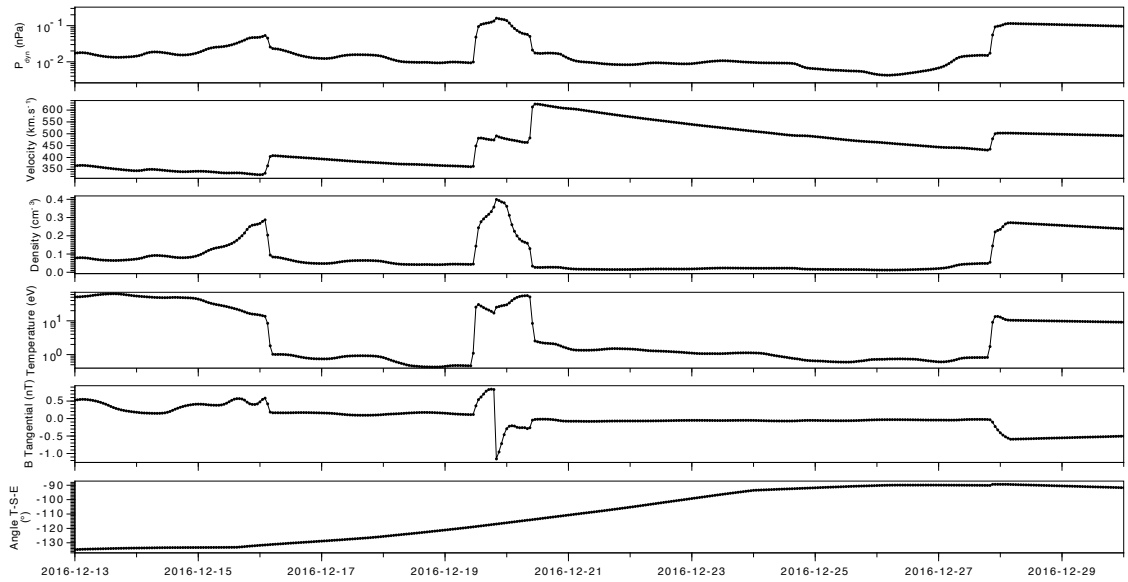

Figure S3. This Figure displays the Solar Wind characteristics, as calculated by the Tao et al. (2005) model: (i) the Dynamic Pressure P_{dyn}, (ii) the velocity, (iii) the density, (iv) the temperature, (v) the tangentiel component of the magnetic field B and (vi) the Jupiter-Sun-Earth angle.

Figure S4 - Solar wind dynamic pressure from Tao et al. (2005)'s model, shifted in time.

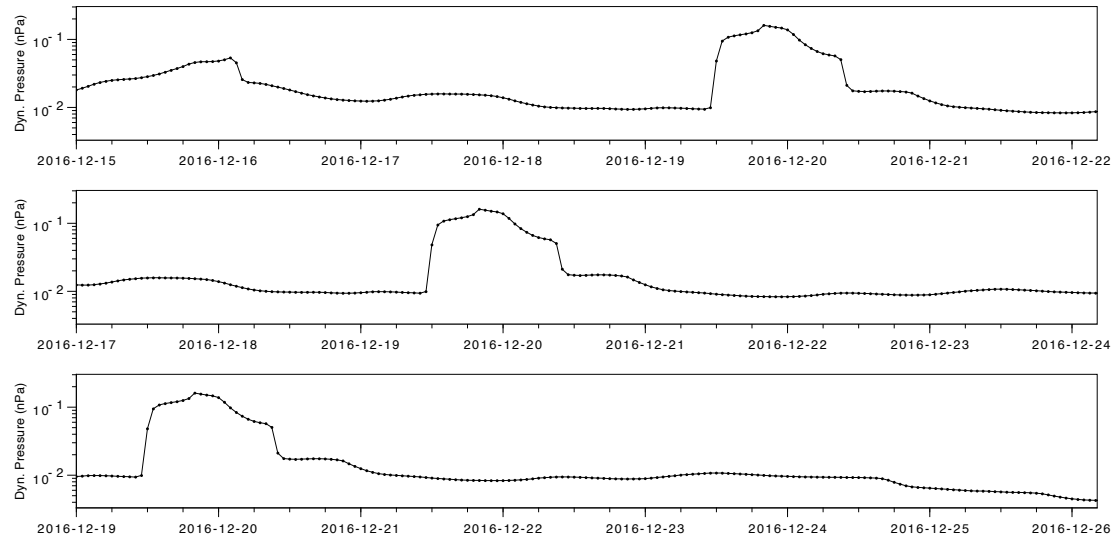

Figure S4: This Figure displays the Solar Wind Dynamic Pressure P_{dyn}, as calculated by the Tao et al. (2005) model. Top panel is shifted by minus two day, middle panel is not shifted and bottom panel is shifted by plus two days.

Figure S5 - nKOM timeseries at different frequencies.

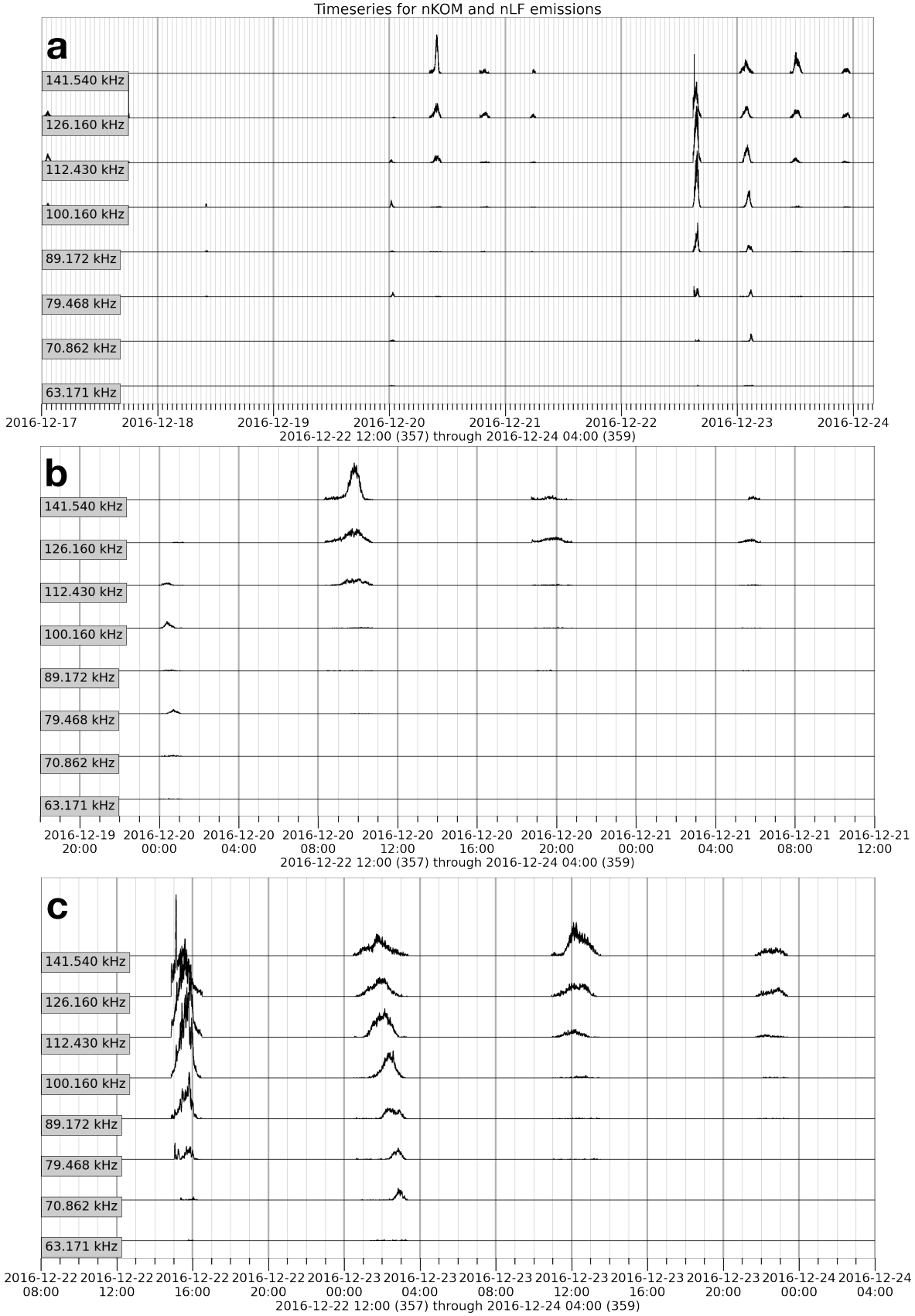

Figure S3: nKOM time series for all frequency channels in the band where the signal is detected. (a) Same time range than Figure 3. (b) Zoom on the first and (c) second compression. The intensity is normalized to the maximum value measured during the interval studied.

Figure S4 display time series of narrowband kilometric (nKOM) emissions (measured by Juno/Waves) for all frequency channels where the signal is detected. The scale of the x-axis (time) of the first panel is the same than in Figure 3 of the article. Panels b and c are zooms on the (b) first and (c) second compression. We can clearly see that new nKOM emissions are activated at ~2016-12-20T00:00 and at ~2016-12-22T15:00.

One can see that the activation of sources is not the same at all frequencies. The lower frequencies are triggered before the higher ones, and also disappear first. For example during the second compression (panel c), the 89.172 kHz signal is visible during the first two rotations, while the 141.54 signal is visible during the last 3 rotations.

One can also see during the second compression (panel c) that the centers of signal distribution at different frequencies are shifting over time. During the first rotation, the periodicity is shorter for the higher frequencies than the lower frequencies.