

| Instrument | Level | Data Name | Description |
|------------------------------|---------------------------|--------------------------|---|
| ASI | L1 | asf_???? | All-sky imager full resolution images of 256x256 pixels (???? = 4-letter code of ground station) |
| | | ast_???? | All-sky imager thumbnail images of 32x32 pixels (???? = 4-letter code of ground station) |
| ASK | L1 | ask_???? | All-sky imager keogram images of 256 pixels (???? = 4-letter code of ground station) |
| ESA | L0 or L2 | For ESA: ? = f or r or b | f=full, r=reduced, b=burst |
| | | pei?_density | ion density |
| | | pei?_t3 | diagonalized ion temperature |
| | | pei?_en | ion energy spectrogram |
| | | pei?_en_eflux | ion energy flux spectrogram |
| | | pei?_velocity | ion velocity (DSL) |
| | | pei?_velocity_??? | ion velocity (???=DSL or GSE or GSM) |
| | | pei?_ptens | ion pressure tensor (DSL) |
| | | peif_mftens | ion momentum flux tensor (DSL) |
| | | pei?_magt3 | ion temperatures in B frame |
| | | pei?_avgtemp | trace of diagonalized temperature tensor divided by 3 |
| | | pei?_vthermal | ion thermal velocity |
| | | pei?_symm | direction of pressure tensor symmetry (DSL) |
| | | pei?_symm_ang | angle between symmetry direction and B |
| | | pei?_ang | ion angle spectrogram |
| | | pei?_tot | total ion count |
| | | pei?_en_counts | ion count vs. energy |
| | | pei?_mode | ion instrument mode |
| | | pee?_density | electron density |
| | | pee?_t3 | diagonalized electron temperature |
| | | pee?_en | electron energy spectrogram |
| | | pee?_en_eflux | electron energy flux spectrogram |
| | | pee?_velocity | electron velocity (DSL) |
| | | pee?_velocity_??? | electron velocity (???=DSL or GSE or GSM) |
| | | pee?_ptens | electron pressure tensor (DSL) |
| | | pee?_mftens | electron momentum flux tensor (DSL) |
| | | pee?_magt3 | electron temperatures in B frame |
| | | pee?_avgtemp | trace of diagonalized temperature tensor divided by 3 |
| | | pee?_vthermal | electron thermal velocity |
| | | pee?_symm | direction of pressure tensor symmetry (DSL) |
| | | pee?_symm_ang | angle between symmetry direction and B |
| | | pee?_ang | electron angle spectrogram |
| | | pee?_tot | total electron count |
| pee?_en_counts | electron count vs. energy | | |
| pee?_mode | electron instrument mode | | |
| SST | L1 or L2 | psi?_# | ? = f or r or b ; # = same quantities as for ESA |
| | | pse?_# | ? = f or r or b ; # = same quantities as for ESA |
| MOM (on-board moments) | L1 and L2 | peim_density | ESA ion density |
| | | peim_flux | ESA ion flux |
| | | peim_mftens | ESA ion momentum flux tensor |

| | | | |
|-------------------|-----------|--|--|
| | | peim_eflux peim_velocity peim_press peem_density peem_flux peem_mftens peem_eflux peem_velocity peem_press | ESA ion energy flux ESA ion velocity ESA ion pressure ESA electron density ESA electron flux ESA electron momentum flux tensor ESA electron energy flux ESA electron velocity ESA electron pressure |
| | L1 and L2 | psim_# psem_# | # = SST quantities (same as for ESA) # = SST quantities (same as for ESA) |
| EFI | L1 or L2 | eff efp efw eff_dot0 efp_dot0 efw_dot0 eff_0 efp_0 efw_0 efs efs_0 efs_dot0 vaf vap vaw vbf vbp vbw ef?_hed ef?_raw va?_hed va?_raw | E field, fast survey/full orbit, 3D E field, particle burst, 3D E field, wave burst, 3D E field, fast survey/full orbit, 3D, using E dot B=0 E field, particle burst, 3D, using E dot B=0 E field, particle burst, 3D, using E dot B=0 E field, fast survey/full orbit, 3D, using Ez=0 E field, particle burst, 3D, using Ez=0 E field, particle burst, 3D, using Ez=0 On-board spin-fit On-board spin-fit electric field using Ez=0 On-board spin-fit electric field using E dot B=0 Voltage, processor A, fast survey/full orbit Voltage, processor A, particle burst Voltage, processor A, wave burst Voltage, processor B, fast survey/full orbit Voltage, processor B, particle burst Voltage, processor B, wave burst 16-byte packet header for analogous data type; ?=f or p or w raw data for analogous data type; ?=f or p or w 16-byte packet header for analogous data type; ?=f or p or w raw data for analogous data type; ?=f or p or w |
| FBK | L1 only | fb1 fb2 fbh | Filter Bank 1 (E and/or B) Filter Bank 2 (E and/or B) Filter Bank high frequency (100-300kHz) |
| | L1 and L2 | fb_hff fb_eac12 fb_eac34 fb_eac56 fb_edc12 fb_edc34 fb_edc56 fb_scm? fb_v? | High-frequency filter peak and average values Spectrogram FBK EAC12, AC component Spectrogram FBK EAC34, AC component Spectrogram FBK EAC56, AC component Spectrogram FBK EDC12, DC component Spectrogram FBK EDC34, DC component Spectrogram FBK EDC56, DC component Spectrogram FBK SCM? ; ?=1,2,3 Spectrogram FBK V? ; ?=1,2,3,4,5,6 |
| FFT (on-board) | L1 and L2 | ffp_16 ffp_16_dbpara ffp_16_dbperp ffp_16_eac12 | FFT power spectrum in particle burst x 16 frequencies FFT power spectrum for dB (parallel) FFT power spectrum for dB (perpendicular) FFT power spectrum fo AC component E12 |

| | | | |
|-------------------|--|-----------------|---|
| | | ffp_16_eac34 | FFT power spectrum for AC component E34 |
| | | ffp_16_eac56 | FFT power spectrum for AC component E56 |
| | | ffp_16_edc12 | FFT power spectrum fo DC component E12 |
| | | ffp_16_edc34 | FFT power spectrum for DC component E34 |
| | | ffp_16_edc56 | FFT power spectrum for DC component E56 |
| | | ffp_16_epar | FFT power spectrum for E (parallel) |
| | | ffp_16_eperp | FFT power spectrum for E (perpendicular) |
| | | ffp_16_scm? | FFT power spectrum for SCM? ; ?=1,2,3 |
| | | ffp_16_v? | FFT power spectrum for V? ; ?=1,2,3,4,5,6 |
| | | ffp_32_# | # = same quantities in particle burst x 32 frequencies |
| | | ffp_64_# | # = same quantities in particle burst x 64 frequencies |
| | | ffw_# | # = same quantities in wave burst |
| FGM | L1 and L2 | fgl | B field, low telemetry (low data rate) |
| | | fgh | B field, high telemetry (high data rate) |
| | L2 only | fge | engineering data (decimated from FGH) |
| | | fgs | B field, spin-resolution magnetic field B in DSL |
| FIT (on-board) | L2 only | efs | On-board spin-fit EFI data |
| | | efs_0 | On-board spin-fit electric field (EFI) using $E_z=0$ |
| | | efs_dot0 | On-board spin-fit electric field (EFI) using $E \cdot B=0$ |
| | | efs_sigma | Variance of onboard spin-plane electric field spin fit |
| | | fgs | On-board spin-fit FGM data |
| | | fgs_sigma | Variance of onboard spin-plane magnetic field spin fit |
| | | fit | SpinFIT file E&B raw data |
| | | fit_bfit | FGM spinfit calibrated data: A,B,C,sig,avg |
| fit_efit | EFI spinfit calibrated data: A,B,C,sig,avg | | |
| GMAG | L2 | mag_???? | Ground magnetometer data in DHZ coordinates (???? = 4-letter code of ground station) |
| SCM | L1 and L2 | scf | waveform fast survey (DSL) |
| | | scp | waveform particle burst (DSL) |
| | | scw | waveform wave burst (DSL) |
| | | sc?_misalign | misalignment of Z axis from spin axis (?=f or p or w) |
| | | sc?_dc | X-Y (spin plane) values of the DC field in DSL |
| | | sc?_iano | time discontinuities of scp data |
| | | sc?_cal | calibrated scp data (unit depends on selected step) |
| STATE | L1 | state_pos | GEI position, xyz |
| | | state_vel | GEI velocity, xyz |
| | | state_man | Maneuver flag |
| | | state_roi | Regions of interest |
| | | state_spinras | spin axis right ascension, deg |
| | | state_spindex | spin axis declination, deg |
| | | state_spinalpha | Geom to spin axis, Euler alpha, deg |
| | | state_spinbeta | Geom to spin axis, Euler beta, deg |
| | | state_spinper | spin period, sec |
| | | state_spinphase | spin phase, deg |