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## APPENDICES

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## ACRONYMS

$\beta$ – ratio of plasma pressure to magnetic field pressure	CDPU – Central DPU (for FIELDS instrument)
$\omega_{pe}$ – electron plasma frequency	CEB – Central Electronics Box (for FIELDS instrument)
$\omega_{pi}$ – ion plasma frequency	CETP – Centre d'étude des Environnements Terrestre et Planétaires
ADP – Axial Double Probe	CIDP – Central Instrument Data Processor
AFG – Analog Flux Gate Magnetometer	CDR – Critical Design Review
AIMS – Action Item Management System	DFG – Digital Flux Gate Magnetometer
ASPOC – Active Spacecraft Potential Control	DMA – Direct Memory Access
$B_n$ – normal component of magnetic field	DS-1 – Deep Space 1
BOE – Basis of Estimates	DSP – Digital Signal Processor (for Fields instrument)
$c$ – speed of light	EAB – Executive Advisory Board
$c/\omega_{pe}$ – electron inertial length (collisionless skin depth)	EDI – Electron Drift Instrument
$c/\omega_{pi}$ – ion inertial length (or collisionless skin depth)	EEE – Electrical, Electronic, Electromechanical
CCSDS – Consultive Committee on Standards in Data Service	

EFW – Electric Fields and Waves instrument  
 (Cluster II)  
 EGSE – Electrical Ground Support Equipment  
 EIS – Energetic Ion Spectrometer  
 EMI – Electromagnetic Interference  
 EM/QM – Engineering Model/Qualification  
 Model  
 EPD – Energetic Particle Detector  
 EPS – Energetic Particle Spectrometer (on  
 MESSENGER)  
 ES – Electron Sensors  
 ESA – Electrostatic Analyzer  
 ESD – Electrostatic Discharge  
 FEEPS – Fly’s Eye Energetic Particle Sensors  
 FPGA – Field Programmable Gate Array  
 FOV – Field of View  
 FM – Flight Model  
 FMEA – Failure Mode Effects Analysis  
 FMECA – Failure Mode Effects and Criticality  
 Analysis  
 FPI – Fast Plasma Instrument  
 FTA – Fault Tree Analysis  
 FTE – Flux Transfer Event  
 FWHM – Full Width at Half Maximum  
 GDU – Gun-Detector Unit (for EDI)  
 GN2 – Gaseous molecular nitrogen  
 GSE – Ground Support Equipment  
 HENA – High Energy Neutral Atom  
 HPCA – Hot Plasma Composition Analyzer  
 ICD – Interface Control Document  
 IC&DH – Instrument Command and Data  
 Handling unit for FPI  
 IES – Ion-Electron Sensor (Rosetta) or Ion and  
 Electron Spectrometer (Cluster II and  
 Polar)  
 IMAGE – Imager for Magnetopause-to-Aurora  
 Global Exploration  
 IMF – Interplanetary Magnetic Field  
 IRAS – Interspacecraft Ranging and Alarm  
 System  
 IS – Ion Sensors  
 ISAS – Institute of Space and Astronautical  
 Sciences  
 ISE – Ion Source Electronics (on ASPOC)  
 ISEE – International Sun-Earth Explorer  
 ISM – Ion Source Module (on ASPOC)

I&T – Integration and Testing  
 ITAR – International Traffic in Arms  
 Regulations  
 IWF – Institut für Weltraumforschung  
 KTH – Kungl Tekniska Högskolan (Royal  
 Institute of Technology)  
 LMATC – Lockheed Martin Advanced  
 Technology Center  
 LN2 – Liquid nitrogen  
 LOA – International Letter of Agreement  
 LVDS – Low Voltage Differential Sensing  
 MAR – Mission Assurance Requirements  
 MCP – Microchannel Plate  
 MGSE – Mechanical Ground Support  
 Equipment  
 MLD - Mission Level Data  
 MMS – Magnetospheric Multiscale  
 MOC – Mission Operations Center  
 P3e – Primavera Project Planner Enterprise  
 PA – Performance Assurance  
 PBS – Product Breakdown Structure  
 PCB – Printed Circuit Board  
 PDR – Preliminary Design Review  
 PER – Pre-Environmental Review  
 PFM – Proto-Flight Model  
 PRA – Probabilistic Risk Assessment  
 PSE – Payload System Engineer  
 PSR – Pre-Ship Review  
 RMS – Risk Management System  
 SCM – Search-Coil Magnetometer  
 SDB – Small, Disadvantaged Business  
 SDC – Science Data Center  
 SDP – Spin-Plane Double Probe  
 SFOT – Space Flight Operations Team  
 SMART – Solving Magnetospheric  
 Acceleration, Reconnection, and  
 Turbulence  
 SOC – Science Operations Center  
 SRR – System Requirements Review  
 SSD – Solid-State Detector  
 TAA – Technical Assistance Agreement  
 TESA – Toroidal Electrostatic Analyzer  
 TLM/CMD – Telemetry/Command  
 T&M – Theory and Modeling  
 TRL – Technology Readiness Level  
 TUBS – Technische Universität Braunschweig