Acronym Reference Sheet

LaTeX Compiled Acronym and Glossary Entries

Used for testing if entries can compile correctly in advance and as a user-friendly output reference sheet.

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Acronyms

Acronyms

H F2-Region Scale Height.

N_m F2-Region Peak density.

R_E Earth radii [$\approx$ 6400 km].

ϵ **Eri** Epsilon Eridani.

as^2 square arcsecond.

h_m F2-Region Peak height.

AC Alternating Current.

ACIS Advanced CCD Imaging Spectrometer.

ACS attitude control system.

ADCS attitude determination and control system.

ADI angular differential imaging.

AIT Assembly, Integration and Test.

ALMA Atacama Large Millimeter Array.

AO Adaptive Optics.

AOA Aft-Optics Assembly.

AOCS Attitude and Orbit Control System.

AOSS Aft-optics Support Structure.

ASTM American Society for Testing and Materials.

AT angle tracking camera.

AT angle tracker.

ATLAST Advanced Technology Large Aperture Space Telescope.

ATLO Assembly Test, and Launch Operations.

AU astronomical Unit [1.5e11 m].

AURIC The Atmospheric Ultraviolet Radiance Integrated Code.

BCT Blue Canyon Technologies.

BOM Bill of Materials.

C&DH command and data handling.

CAAO Center for Astronomical Adaptive Optics.

CACAO Compute and Control of Adaptive Optics.

CAD computer-aided design.

CBE current best estimate.

CCD charge-coupled device.

CCP Contamination Control Plan.

CDI coherent differential imaging.

CDP critical design phase.

CDR critical design review.

CDRL Contract Data Requirement List.

CDS correlated double sampling.

CFR Complete Frequency Redistribution.

CGI Coronagraph Instrument.

CHARA Center for High Angular Resolution Astronomy.

CIDL configuration item data list.

CLI command-line interface.

CMOS complementary metal–oxide–semiconductor.

CNS communications and network system.

ConOps concept of operations.

COTS commercial off-the-shelf.

COTS Commercial Off-The-Shelf.

CPG Common Point Ground.

CPR cost performance report.

CRFP carbon fiber reinforced plastic.

CSH camera systems hardware.

CSR concept study report.

CSS camera systems software.

CTE coefficient of thermal expansion.

CUDA Compute Unified Device Architecture.

DAC digital-to-analog converter.

DBMS database management system.

DC Direct Current.

DDCP document and drawing control plan.

DHS data handling system.

DIATF Drake Imager Assembly and Testing Facility.

DIRTY *DustI Radiative Transfer, Yeah!*.

DIT discrete inverse theory.

DLL Design Limit Loads.

DM Deformable Mirror.

DMA dynamic mechincal anlysis.

DMM Digital Multimeter.

DOF degrees-of-freedom.

EA Executing Agent.

EDAC Error Detection and Correction.

EEID Earth-equivalent Insolation Distance, the distance from the star where the incident energy density is that of the Earth received from the Sun.

EEIS End-to-End Information Systems.

EFC electric-field conjugation.

EFC implicit EFC.

EKB Edgeworth-Kuiper Belt.

EMC Electromagnetic Compatibility.

EMCCD electron multiplying charge-coupled device.

EMI Electromagnetic Interference.

EP Telescope Entrance Pupil.

EPS electrical power system.

ERD Environmental Requirements Document.

ESA European Space Agency.

ESC STP ExtraSolar Camera, a Coronagraphic Pathfinder.

ESC ExtraSolar Camera.

ESD Electro-static Discharge.

ESDS ESD Sensitive.

ESPA EELV Secondary Payload Adapter.

ets Engineering Technical Services.

EUV Extreme-Ultraviolet.

EUVS EUV Spectrograph.

F10.7 10.7 cm radio flux [10^{-22} W m^{-2} Hz^{-1}].

F2 Ionospheric Chapman F Layer.

FBD Functional Block Diagram.

FDPR focus diversity phase retrieval.

FDR final design review.

FEA finite element analysis.

FEM finite element method.

FFT Fast Fourier Transform.

FGS Fine Guidance Sensor.

FMECA Failure Mode, Effects, and Criticality Analysis.

FOA Fore-Optics Assembly.

FOC fiber optic cable.

FOCS feed optics control system.

FoS Factors of Safety.

FOV field-of-view.

FPS fine pointing system.

FSM fast steering Mirror.

FSW Flight Software.

FUSE *FUSE*.

FUV far-ultraviolet.

FWHM full-width-half maximum.

GALEX *Galaxy Evolution Explorer*.

GEO geosynchronous orbit.

GISSMO Gas Ionization Solar Spectral Monitor.

GPI Gemini Planet Imager.

GPS Global Positioning System.

GRAIL Gravity Recovery and Interior Laboratory.

GSE ground station equipment.

GSFC NASA Goddard Space Flight Center.

HabEx Habitable Exoplanet Observatory Mission Concept.

HARPS High Accuracy Radial velocity Planetary.

HFOV Half Field of View.

HLC Hybrid-Lyot Coronagraph.

HLST Hypothetical Large Space Telescopes.

HOWFS/C high-order wavefront sensing and control.

HSDR High Speed Data Recorder.

HST Hubble Space Telescope.

HWO Habitable Worlds Observatory.

HZ habitable zone.

ICD interface control document.

IDL *Interactive Data Language*.

IFS integral field spectrograph.

IFU integral field unit.

IMAGER *Interstellar Medium Absorption Gradient Experiment Rocket*.

INDI Insturment Neutral Distributed Interface.

IPC Image Proportional Counter.

IR infrared.

IRAC Infrared Array Camera.

IRAC Infrared Array Camera.

IRAF Image Reduction and Analysis Facility.

IRAS Infrared Astronomical Satellite.

IRS Infrared Spectrograph.

ISIO Image Stream IO.

ISM interstellar medium.

ISR incoherent scatter radar.

ISR Incoherent Scatter Radar.

ISS International Space Station.

ITL Imaging Technology Lab.

IUE International Ultraviolet Explorer.

IWA Inner Working Angle.

JWST *JWST*.

KIN Keck Interferometer Nuller.

KISS keep it sans spectrometer.

KLIP Karhunen-Lo‘eve Image Processing.

L3 Telescope Module Collimating Lens.

LBT Large Binocular Telescope.

LBTI Large Binocular Telescope Interferometer.

LCP liquid-crystal polymer.

LDFC linear dark field control.

LEO low-earth orbit.

LGS laser guide star.

LITES Limb-imaging Ionospheric and Thermospheric Extreme-ultraviolet Spectrograph.

LLIPC low-latency IPC.

LLOWFS Lyot low-order wavefront sensor.

LMC Large Magellanic Cloud.

LNA Low Noise Amplifier.

LOWFSC Low-order WFS and control.

LSI Lateral Shearing Interferometer.

LSST Large Synoptic Survey Telescope.

LUVOIR Large UV Optical IR Surveyor.

LVDS Low-Voltage Differential Signal.

LWIR longwave infrared.

M1 Mirror 1 (Telescope Module Primary Mirror).

M2 Mirror 2 (Telescope Module Secondary Mirror).

M3 Mirror 3.

M4 Mirror 4.

MAMA Multi-Anode Microchannel Array.

MAP Mission Assurance Plan.

mas milliarcsecond.

MCMC Marcov chain Monte Carlo.

MCP Microchannel Plate.

MEL Mass Equipment List.

MEMS microelectromechanical systems.

MGHPCC Massachusetts Green High Performance Computing Center.

MIPS Multiband Imaging Photometer for Spitzer.

MIPS Multiband Imaging Photometer for Spitzer.

MIR mid-infrared.

MIRI Mid-Infrared Instrument.

MIUL Materials Identification and Usage List.

MM Machine Model [for electrostatic discharge].

MMT Multiple Mirror Telescope.

MMTO MMT Observatory.

MODTRAN MODerate resolution atmospheric TRANsmission.

MoS Margin of Safety = (Material Allowable / (Max Stress MPE * FoS)) - 1.

MOSFET Metal-Oxide-Semiconductor Field-Effect Transistor.

MPE Maximum Predicted Environments.

MRF Magnetorheological finishing.

MSIS Mass Spectrometer Incoherent Scatter Radar.

MUF Model Uncertainty Factor.

MUV mid-ultraviolet.

MW Milky Way.

MWIR midwave infrared.

N-PZT Nuller piezoelectric transducer.

N/A Not Applicable.

NA Not Applicable.

NASA National Aeronautics and Space Agency.

NED NASA/IPAC Extragalactic Database.

NIR near-infrared.

NIR near-infrared.

NIRCam near-IR-camera.

nm nanometer.

NMF non-negative matrix factorization.

NRE non-recurring engineering.

NRM normal response mode.

NSROC NASA Sounding Rocket Operations Contract.

NUV near-ultraviolet.

O^+ Singly Ionized Oxygen Atom.

OAP off-axis parabola.

OBSID Observation Identification.

ODI orbital-differential imaging.

OI Neutral Atomic Oxygen Spectroscopic State.

OII Singly Ionized Atomic Oxygen Spectroscopic State.

OMI *Optical Mechanics Inc.*.

OPD optical path difference.

ORSA Ogive Recovery System Assembly.

OWA Outer Working Angle.

P/N Part Number.

PAC Percent Area Coverage.

PAH Polycyclic Aromatic Hydrocarbon.

pc parsec.

PCA principal component analysis.

PEGASE *Projet d'Etude des GAlaxies par Synthese Evolutive.*

PEL Power Equipment List.

PICTURE Planet Imaging Concept Testbed Using a Rocket Experiment.

PID Proportional-Integral-Derivative.

PMCC primary mirror (M1) control computer.

PMSS primary mirror (M1) support structure.

POC point of contact.

POPPY Physical Optics Propagation in Python.

PPAP Policies, Procedures, and Protocols.

ppm Part Per Million.

PRNU dark signal non-uniformity.

PRNU photo response non-uniformity.

PSD power spectral density.

PSF point spread function.

PSFTFC PSF template subtracted coronagraphy.

PTFE Polytetrafluoroethylene (Teflon).

PV Peak-to-Valley.

PVC Polyvinyl Chloride.

PZT lead zirconate titanate.

QA Quality Assurance.

QE quantum efficiency.

QKD Quantum Key Distribution.

RAIDS Atmospheric and Ionospheric Detection System.

RDI reference differential imaging.

resel resolution element.

RGA Residual Gas Analyzer.

RH Relative Humidity.

RMS root mean squared.

RMSE root mean squared error.

ROI region of interest.

Roman Nancy Grace Roman Space Telescope.

Roman Nancy Grace Roman Space Telescope.

RTD Resistance Temperature Detector.

RV radial velocity.

SBC single-board computer.

SCC self-coherent camera.

SCoOB Space Coronagraph Optical Bench.

scoob space-coronagraph optical bench.

SCRaPpy Space Coronagraph Rapid Prototype.

SDLC Software Development Lifecycle.

SDP Software Development Plan.

SED spectral energy distribution.

SEE Single Event Effects.

SFL Spaceflight Laboratory.

SHARPI Solar High-Angular Resolution Photometric Imager.

SHWFS Shack-Hartmann Wavefront Sensor.

SIPC Soft-real-time inter-process communication.

SMC Small Magellanic Cloud.

SMR spherically mounted retroreflector.

SN Supernova.

SNR signal-to-noise ratio.

SOEDMS Steward Observatory Electronic Data Management System.

SPC Shaped Pupil Coronagraph.

SPGD Stochastic Parallel Gradient Descent.

SPINR *Spectrograph for Photometric Imaging with Numeric Reconstruction.*

Spitzer *Spitzer Space Telescope.*

SRR system requirements review.

STIS Space Telescope Imaging Spectrograph.

STIS Space Telescope Imaging Spectrograph.

STIS *Space Telescope Imaging Spectrograph.*

STM science traceability matrix.

STOP Structural-Thermal-Optical-Performance.

STP Space Telescope Pathfinder.

STScI Space Telescope Science Institute.

SVD singular value decomposition.

SWaP Size, Weight, and Power.

SZA Solar Zenith Angle.

TAM Test Allocation Matrix.

TAO Tokyo Atacama Observatory.

TBC To Be Confirmed.

TBD To Be Determined.

TBR To Be Reviewed.

TCSI Telescope Control System Interface.

TDEM Technology Development for Exoplanet Missions.

TEC thermoelectric cooler.

TID Total Ionizing Dose.

TLE Two Line Element set.

TMA three-mirror anastigmat.

TNID Total Non-Ionizing Dose.

TPF-C Terrestrial Planet Finder Coronagraph.

TRL technology readiness level.

TTP tip, tilt, and piston.

TWAA TLA Within Another Acronym.

UA University of Arizona.

UASAL UArizona Space Astrophysics Lab.

ULE ultra-low expansion glass.

UM Ultramarine.

UTIAS University of Toronto Institute for Aerospace Studies.

UUT Unit Under Test.

UV ultraviolet.

UVS Ultraviolet Spectrograph.

VC Visualy Clean.

VC-HS Visualy Clean High Sensitive.

VC-S Visualy Clean Sensitive.

VNC Visible Nulling Coronagraph.

VSG vacuum surface gauge.

VVC Vector Vortex Coronagraph.

VVW Vector Vortex Waveplate.

WCC Wavefront and Context Camera.

WCC Wavefront and Context Camera.

WCS World Coordinate System.

WFCS wavefront control system.

WFE wavefront error.

WFF NASA Wallops Flight Facility.

WFIRST-AFTA Wide-Field InfrarRed Survey Telescope-Astrophysics Focused Telescope Assets.

WFS wavefront sensor.

WFSC wavefront sensing and control.

WISE Wide-field Infrared Survey Explorer.

WM Workmanship Manual.

WSMR White Sands Missile Range.

XAO extreme-adaptive optics.

XP Telescope Exit Pupil.

XWC eXtreme Wavefront Control.

XWCTk eXtreme Wavefront Control Toolkit.

ZWFS Zernike wavefront sensor.

Chapter 2

Glossary

Terms

Assembly A functional subdivision of a component, consisting of parts or subassemblies, which perform functions necessary for the operation of the component as a whole. Examples: regulator assembly, power amplifier assembly, gyro assembly, etc..

Cheater Plug An Alternating Current AC plug adapter used to connect a three-pronged plug to a two-pronged AC socket. It can be used to separate the ground wire from the socket for testing purposes..

Component A functional subdivision of a system, generally a self-contained combination of assemblies performing a function necessary for the system's operation. Examples: power supply, transmitter, gyro package, etc..

Conductive Material A material that has a surface resistivity of <105 ohms per square or a volume resistivity <104 ohms-cm..

Electrostatic Discharge A transfer of electrostatic charge between bodies at different electrostatic potentials caused by direct contact or induced by an electrostatic field..

Electrostatic Field A voltage gradient between an electrostatically charged surface and another surface of a different electrostatic potential..

ESD Protected Area An area that is constructed and equipped with the necessary ESD-protective materials and equipment to limit ESD voltage below the sensitivity level of ESDS items handled therein. This may include benches, rooms or buildings..

ESD-Protective Material Material capable of one or more of the following functions: limiting the generation of static electricity; safely dissipating electrostatic charges over its surface or volume; or providing shielding from ESD spark discharge or electrostatic fields..

Ground A mass such as earth, a ship, or a vehicle hull, capable of supplying or accepting a large electrical charge..

Groundable Point Any point with low impedance to ground where grounding may be attached. Usually it is the common point ground..

Hard Ground A connection to earth ground either directly or through low impedance..

Insulative Material A material having a surface resistivity >= 1012 ohms/square or a volume resistivity >= 1011 ohms-cm..

Kit A prepared package of parts with instructions for assembly and/or wiring a component or chassis..

Operator An individual who is trained and certified to perform tasks in an ESD protected area..

Part An element of a component, assembly, or subassembly which is not normally subject to further subdivision or disassembly without destruction of its designed use, e.g., a module, Integrated Circuit (IC), resistor, etc..

Soft Ground A connection to ground through impedance sufficiently high to limit current flow to safe levels for personnel (normally 5 milliamperes). Impedance needed for a soft ground is dependent upon the voltage levels which could be contacted by personnel near the ground. By this definition a hard ground protected by a functional GFCI is considered a soft ground..

Static Dissipative A property of a material having surface resistivity >= 105 but <1012 ohms per square or a volume resistivity >= 104 but <1011 ohms-cm..

Surface Resistivity The surface resistivity is an inverse measure of the conductivity of a material. Surface resistivity of a material is numerically equal to the surface resistance between two electrodes forming opposite sides of a square. The size of the square is immaterial. Surface resistivity applies to both surfaces and materials with constant volume conductivity and has the value of ohms per square..

Triboelectric Pertaining to electricity generated by friction..

Fin.