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# 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.*

**Teledoc Link:** *PLACEHOLDER*

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# Chapter 1

## Acronyms

### Acronyms

$H$  F2-Region Scale Height.

$N_m$  F2-Region Peak density.

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

$\epsilon$  **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.

**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 [ $1.5 \times 10^{11}$  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.

**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 mechanical analysis.

**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<sup>-2</sup> Hz<sup>-1</sup>].

**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.

**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.

**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.

**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.*

**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.

**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.

**LOWFS** 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.

**mas** milliarcsecond.

**MCMC** Marcov chain Monte Carlo.

**MCP** Microchannel Plate.

**MEL** Master 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.

**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.

**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<sup>+</sup>** 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.*

**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.

**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.

**RGAs** 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.

**SED** spectral energy distribution.

**SEE** Single Event Effects.

**SFL** Spaceflight Laboratory.



**SHARPI** Solar High-Angular Resolution Photometric Imager.

**SHWFS** Shack-Hartmann Wavefront Sensor.

**SMC** Small Magellanic Cloud.

**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.

**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** Visually Clean.

**VC-HS** Visually Clean High Sensitive.

**VC-S** Visually Clean Sensitive.

**VNC** Visible Nulling Coronagraph.

**VSG** vacuum surface gauge.

**VVC** Vector Vortex Coronagraph.

**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 Infrared 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.

**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  $<10^5$  ohms per square or a volume resistivity  $<10^4$  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  $10^{12}$  ohms/square or a volume resistivity  $10^{11}$  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  $10^5$  but  $<10^{12}$  ohms per square or a volume resistivity  $10^4$  but  $<10^{11}$  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.