

Archive-name: space/acronyms

Edition: 8

Acronym List for sci.astro, sci.space, and sci.space.shuttle:

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This list is offered as a reference for translating commonly appearing acronyms in the space-related newsgroups. If I forgot or botched your favorite acronym, please let me know! Also, if there's an acronym **not** on this list that confuses you, drop me a line, and if I can figure it out, I'll add it to the list.

Note that this is intended to be a reference for **frequently seen** acronyms, and is most emphatically **not** encyclopedic. If I incorporated every acronym I ever saw, I'd soon run out of disk space! :-)

The list will be posted at regular intervals, every 30 days. All comments regarding it are welcome; I'm reachable as bradfrd2@ncar.ucar.edu.

Note that this just tells what the acronyms stand for -- you're on your own for figuring out what they **mean**! Note also that the total number of acronyms in use far exceeds what I can list; special-purpose acronyms that are essentially always explained as they're introduced are omitted.

Further, some acronyms stand for more than one thing; as of Edition 3 of the list, these acronyms appear on multiple lines, unless they're simply different ways of referring to the same thing.

Thanks to everybody who's sent suggestions since the first version of the list, and especially to Garrett A. Wollman (wollman@griffin.uvm.edu), who is maintaining an independent list, somewhat more verbose in character than mine, and to Daniel Fischer (dfi@specklec.mpifr-bonn.mpg.de),

who is maintaining a truly HUGE list (535 at last count) of acronyms and terms, mostly in German (which I read, fortunately).

Special thanks this time to Ken Hollis at NASA, who sent me a copy of NASA Reference Publication 1059 Revised: Space Transportation System and Associated Payloads: Glossary, Acronyms, and Abbreviations, a truly mammoth tome -- almost 300 pages of TLAs.

Special Bonus! At the end of this posting, you will find a perl program written by none other than Larry Wall, whose purpose is to scramble the acronym list in an entertaining fashion. Thanks, Larry!

A&A: Astronomy and Astrophysics

AAO: Anglo-Australian Observatory

AAS: American Astronomical Society

AAS: American Astronautical Society

AAVSO: American Association of Variable Star Observers

ACE: Advanced Composition Explorer

ACRV: Assured Crew Return Vehicle (or) Astronaut Crew Rescue Vehicle

ADFRF: Ames-Dryden Flight Research Facility (was DFRF) (NASA)

AGN: Active Galactic Nucleus

AGU: American Geophysical Union

AIAA: American Institute of Aeronautics and Astronautics

AIPS: Astronomical Image Processing System

AJ: Astronomical Journal

ALEXIS: Array of Low Energy X-ray Imaging Sensors

ALPO: Association of Lunar and Planetary Observers

ALS: Advanced Launch System

ANSI: American National Standards Institute

AOA: Abort Once Around (Shuttle abort plan)

AOCS: Attitude and Orbit Control System

Ap.J: Astrophysical Journal

APM: Attached Pressurized Module (a.k.a. Columbus)

APU: Auxiliary Power Unit

ARC: Ames Research Center (NASA)

ARTEMIS: Advanced Relay TEchnology MISsion

ASA: Astronomical Society of the Atlantic

ASI: Agenzia Spaziale Italiano

ASRM: Advanced Solid Rocket Motor

ATDRS: Advanced Tracking and Data Relay Satellite

ATLAS: Atmospheric Laboratory for Applications and Science

ATM: Amateur Telescope Maker

ATO: Abort To Orbit (Shuttle abort plan)

AU: Astronomical Unit

AURA: Association of Universities for Research in Astronomy

AW&ST: Aviation Week and Space Technology (a.k.a. AvLeak)

AXAF: Advanced X-ray Astrophysics Facility

BATSE: Burst And Transient Source Experiment (on CGRO)

BBXRT: Broad-Band X-Ray Telescope (ASTRO package)

BEM: Bug-Eyed Monster

BH: Black Hole

BIMA: Berkeley Illinois Maryland Array

BNSC: British National Space Centre

BTW: By The Way

C&T: Communications & Tracking

CCAFS: Cape Canaveral Air Force Station

CCD: Charge-Coupled Device

CCDS: Centers for the Commercial Development of Space

CD-ROM: Compact Disk Read-Only Memory

CFA: Center For Astrophysics

CFC: ChloroFluoroCarbon

CFF: Columbus Free Flyer

CFHT: Canada-France-Hawaii Telescope

CGRO: (Arthur Holley) Compton Gamma Ray Observatory (was GRO)

CHARA: Center for High Angular Resolution Astronomy

CIRRIS: Cryogenic InfraRed Radiance Instrument for Shuttle

CIT: Circumstellar Imaging Telescope

CM: Command Module (Apollo spacecraft)

CMCC: Central Mission Control Centre (ESA)

CNES: Centre National d'Etude Spatiales

CNO: Carbon-Nitrogen-Oxygen

CNSR: Comet Nucleus Sample Return

COBE: COsmic Background Explorer

COMPTEL: COMPTon TELescope (on CGRO)

COSTAR: Corrective Optics Space Telescope Axial Replacement

CRAF: Comet Rendezvous / Asteroid Flyby

CRRES: Combined Release / Radiation Effects Satellite

CSM: Command and Service Module (Apollo spacecraft)

CSTC: Consolidated Satellite Test Center (USAF)

CTIO: Cerro Tololo Interamerican Observatory

DCX: Delta Clipper eXperimental

DDCU: DC-to-DC Converter Unit

DFRF: Dryden Flight Research Facility (now ADFRF)

DMSP: Defense Meteorological Satellite Program

DOD: Department Of Defense (sometimes DoD)

DOE: Department Of Energy

DOT: Department Of Transportation

DSCS: Defense Satellite Communications System

DSN: Deep Space Network

DSP: Defense Support Program (USAF/NRO)

EAFB: Edwards Air Force Base

ECS: Environmental Control System

EDO: Extended Duration Orbiter

EGRET: Energetic Gamma Ray Experiment Telescope (on CGRO)

EJASA: Electronic Journal of the Astronomical Society of the Atlantic

ELV: Expendable Launch Vehicle

EMU: Extravehicular Mobility Unit

EOS: Earth Observing System

ERS: Earth Resources Satellite (as in ERS-1)

ESA: European Space Agency

ESO: European Southern Observatory

ET: (Shuttle) External Tank

ETLA: Extended Three Letter Acronym

ETR: Eastern Test Range

EUV: Extreme UltraViolet

EUVE: Extreme UltraViolet Explorer

EVA: ExtraVehicular Activity

FAQ: Frequently Asked Questions

FAST: Fast Auroral SnapshoT explorer

FFT: Fast Fourier Transform

FGS: Fine Guidance Sensors (on HST)

FHST: Fixed Head Star Trackers (on HST)

FIR: Far InfraRed

FITS: Flexible Image Transport System

FOC: Faint Object Camera (on HST)

FOS: Faint Object Spectrograph (on HST)

FRR: Flight-Readiness Review

FTP: File Transfer Protocol

FTS: Flight Telerobotic Servicer

FUSE: Far Ultraviolet Spectroscopic Explorer

FWHM: Full Width at Half Maximum

FYI: For Your Information

GAS: Get-Away Special

GBT: Green Bank Telescope

GCVS: General Catalog of Variable Stars

GEM: Giotto Extended Mission

GEO: Geosynchronous Earth Orbit

GDS: Great Dark Spot

GHRS: Goddard High Resolution Spectrograph (on HST)

GIF: Graphics Interchange Format

GLOMR: Global Low-Orbiting Message Relay

GMC: Giant Molecular Cloud

GMRT: Giant Meter-wave Radio Telescope

GMT: Greenwich Mean Time (also called UT)

GOES: Geostationary Orbiting Environmental Satellite

GOX: Gaseous OXYgen

GPC: General Purpose Computer

GPS: Global Positioning System

GRO: Gamma Ray Observatory (now CGRO)

GRS: Gamma Ray Spectrometer (on Mars Observer)

GRS: Great Red Spot

GSC: Guide Star Catalog (for HST)

GSFC: Goddard Space Flight Center (NASA)

GTO: Geostationary Transfer Orbit

HAO: High Altitude Observatory

HD: Henry Draper catalog entry

HEAO: High Energy Astronomical Observatory

HeRA: Hermes Robotic Arm

HF: High Frequency

HGA: High Gain Antenna

HLC: Heavy Lift Capability

HLV: Heavy Lift Vehicle

HMC: Halley Multicolor Camera (on Giotto)

HR: Hertzsprung-Russell (diagram)

HRI: High Resolution Imager (on ROSAT)

HSP: High Speed Photometer (on HST)

HST: Hubble Space Telescope

HUT: Hopkins Ultraviolet Telescope (ASTRO package)

HV: High Voltage

IAPPP: International Amateur/Professional Photoelectric Photometry

IAU: International Astronomical Union

IAUC: IAU Circular

ICE: International Cometary Explorer

IDA: International Dark-sky Association

IDL: Interactive Data Language

IGM: InterGalactic Medium

IGY: International Geophysical Year

IMHO: In My Humble Opinion

IOTA: Infrared-Optical Telescope Array

IOTA: International Occultation Timing Association

IPS: Inertial Pointing System

IR: InfraRed

IRAF: Image Reduction and Analysis Facility

IRAS: InfraRed Astronomical Satellite

ISAS: Institute of Space and Astronautical Science (Japan)

ISM: InterStellar Medium

ISO: Infrared Space Observatory

ISO: International Standards Organization

ISPM: International Solar Polar Mission (now Ulysses)

ISY: International Space Year

IUE: International Ultraviolet Explorer

IUS: Inertial Upper Stage

JEM: Japanese Experiment Module (for SSF)

JGR: Journal of Geophysical Research

JILA: Joint Institute for Laboratory Astrophysics

JPL: Jet Propulsion Laboratory

JSC: Johnson Space Center (NASA)

KAO: Kuiper Airborne Observatory

KPNO: Kitt Peak National Observatory

KSC: Kennedy Space Center (NASA)

KTB: Cretaceous-Tertiary Boundary (from German)

LANL: Los Alamos National Laboratory

LaRC: Langley Research Center (NASA)

LDEF: Long Duration Exposure Facility

LEM: Lunar Excursion Module (a.k.a. LM) (Apollo spacecraft)

LEO: Low Earth Orbit

LeRC: Lewis Research Center (NASA)

LEST: Large Earth-based Solar Telescope

LFSA: List of Frequently Seen Acronyms (!)

LGA: Low Gain Antenna

LGM: Little Green Men

LH: Liquid Hydrogen (also LH2 or LHX)

LLNL: Lawrence-Livermore National Laboratory

LM: Lunar Module (a.k.a. LEM) (Apollo spacecraft)

LMC: Large Magellanic Cloud

LN2: Liquid N2 (Nitrogen)

LOX: Liquid OXygen

LRB: Liquid Rocket Booster

LSR: Local Standard of Rest

LTP: Lunar Transient Phenomenon

MB: Manned Base

MCC: Mission Control Center

MECO: Main Engine CutOff

MMH: MonoMethyl Hydrazine

MMT: Multiple Mirror Telescope

MMU: Manned Maneuvering Unit

MNRAS: Monthly Notices of the Royal Astronomical Society

MOC: Mars Observer Camera (on Mars Observer)

MOL: Manned Orbiting Laboratory

MOLA: Mars Observer Laser Altimeter (on Mars Observer)

MOMV: Manned Orbital Maneuvering Vehicle

MOTV: Manned Orbital Transfer Vehicle

MPC: Minor Planets Circular

MRSR: Mars Rover and Sample Return

MRSRM: Mars Rover and Sample Return Mission

MSFC: (George C.) Marshall Space Flight Center (NASA)

MTC: Man Tended Capability

NACA: National Advisory Committee on Aeronautics (became NASA)

NASA: National Aeronautics and Space Administration

NASDA: NAtional Space Development Agency (Japan)

NASM: National Air and Space Museum

NASP: National AeroSpace Plane

NBS: National Bureau of Standards (now NIST)

NDV: NASP Derived Vehicle

NERVA: Nuclear Engine for Rocket Vehicle Application

NGC: New General Catalog

NICMOS: Near Infrared Camera / Multi Object Spectrometer (HST upgrade)

NIMS: Near-Infrared Mapping Spectrometer (on Galileo)

NIR: Near InfraRed

NIST: National Institute for Standards and Technology (was NBS)

NLDP: National Launch Development Program

NOAA: National Oceanic and Atmospheric Administration

NOAO: National Optical Astronomy Observatories

NRAO: National Radio Astronomy Observatory

NRO: National Reconnaissance Office

NS: Neutron Star

NSA: National Security Agency

NSF: National Science Foundation

NSO: National Solar Observatory

NSSDC: National Space Science Data Center

NTR: Nuclear Thermal Rocket(ry)

NTT: New Technology Telescope

OAo: Orbiting Astronomical Observatory

OCST: Office of Commercial Space Transportation

OMB: Office of Management and Budget

OMS: Orbital Maneuvering System

OPF: Orbiter Processing Facility

ORFEUS: Orbiting and Retrievable Far and Extreme Ultraviolet Spectrometer

OSC: Orbital Sciences Corporation

OSCAR: Orbiting Satellite Carrying Amateur Radio

OSSA: Office of Space Science and Applications

OSSE: Oriented Scintillation Spectrometer Experiment (on CGRO)

OTA: Optical Telescope Assembly (on HST)

OTHB: Over The Horizon Backscatter

OTV: Orbital Transfer Vehicle

OV: Orbital Vehicle

PAM: Payload Assist Module

PAM-D: Payload Assist Module, Delta-class

PI: Principal Investigator

PLSS: Portable Life Support System

PM: Pressurized Module

PMC: Permanently Manned Capability

PMIRR: Pressure Modulated InfraRed Radiometer (on Mars Observer)

PMT: PhotoMultiplier Tube

PSF: Point Spread Function

PSR: PulSaR

PV: Photovoltaic

PVO: Pioneer Venus Orbiter

QSO: Quasi-Stellar Object

RCI: Rodent Cage Interface (for SLS mission)

RCS: Reaction Control System

REM: Rat Enclosure Module (for SLS mission)

RF: Radio Frequency

RFI: Radio Frequency Interference

RIACS: Research Institute for Advanced Computer Science

RMS: Remote Manipulator System

RNGC: Revised New General Catalog

ROSAT: ROentgen SATellite

ROUS: Rodents Of Unusual Size (I don't believe they exist)

RSN: Real Soon Now

RTG: Radioisotope Thermoelectric Generator

RTLS: Return To Launch Site (Shuttle abort plan)

SAA: South Atlantic Anomaly

SAGA: Solar Array Gain Augmentation (for HST)

SAMPEX: Solar Anomalous and Magnetospheric Particle EXplorer

SAO: Smithsonian Astrophysical Observatory

SAR: Search And Rescue

SAR: Synthetic Aperture Radar

SARA: Satellite pour Astronomie Radio Amateur

SAREX: Search and Rescue Exercise

SAREX: Shuttle Amateur Radio Experiment

SAS: Space Activity Suit

SAS: Space Adaptation Syndrome

SAT: Synthetic Aperture Telescope

S/C: SpaceCraft

SCA: Shuttle Carrier Aircraft

SCT: Schmidt-Cassegrain Telescope

SDI: Strategic Defense Initiative

SDIO: Strategic Defense Initiative Organization

SEI: Space Exploration Initiative

SEST: Swedish ESO Submillimeter Telescope

SETI: Search for ExtraTerrestrial Intelligence

SID: Sudden Ionospheric Disturbance

SIR: Shuttle Imaging Radar

SIRTF: Space (formerly Shuttle) InfraRed Telescope Facility

SL: SpaceLab

SLAR: Side-Looking Airborne Radar

SLC: Space Launch Complex

SLS: Space(lab) Life Sciences

SMC: Small Magellanic Cloud

SME: Solar Mesosphere Explorer

SMEX: SMall EXplorers

SMM: Solar Maximum Mission

SN: SuperNova (e.g., SN1987A)

SNR: Signal to Noise Ratio

SNR: SuperNova Remnant

SNU: Solar Neutrino Units

SOFIA: Stratospheric Observatory For Infrared Astronomy

SOHO: SOLar Heliospheric Observatory

SPAN: Space Physics and Analysis Network

SPDM: Special Purpose Dextrous Manipulator

SPOT: Systeme Probatoire pour l'Observation de la Terre

SPS: Solar Power Satellite

SRB: Solid Rocket Booster

SRM: Solid Rocket Motor

SSF: Space Station Fred (er, Freedom)

SSI: Solid-State Imager (on Galileo)

SSI: Space Studies Institut

SSME: Space Shuttle Main Engine

SSPF: Space Station Processing Facility

SSRMS: Space Station Remote Manipulator System

SST: Spectroscopic Survey Telescope

SST: SuperSonic Transport

SSTO: Single Stage To Orbit

STIS: Space Telescope Imaging Spectrometer (to replace FOC and GHRS)

STS: Shuttle Transport System (or) Space Transportation System

STScI: Space Telescope Science Institute

SWAS: Submillimeter Wave Astronomy Satellite

SWF: ShortWave Fading

TAL: Transatlantic Abort Landing (Shuttle abort plan)

TAU: Thousand Astronomical Unit (mission)

TCS: Thermal Control System

TDRS: Tracking and Data Relay Satellite

TDRSS: Tracking and Data Relay Satellite System

TES: Thermal Emission Spectrometer (on Mars Observer)

TIROS: Television InfraRed Observation Satellite

TLA: Three Letter Acronym

TOMS: Total Ozone Mapping Spectrometer

TPS: Thermal Protection System

TSS: Tethered Satellite System

UARS: Upper Atmosphere Research Satellite

UBM: Unpressurized Berthing Mechanism

UDMH: Unsymmetrical DiMethyl Hydrazine

UFO: Unidentified Flying Object

UGC: Uppsala General Catalog

UHF: Ultra High Frequency

UIT: Ultraviolet Imaging Telescope (Astro package)

UKST: United Kingdom Schmidt Telescope

USAF: United States Air Force

USMP: United States Microgravity Payload

UT: Universal Time (a.k.a. GMT, UTC, or Zulu Time)

UTC: Coordinated Universal Time (a.k.a. UT)

UV: UltraViolet

UVS: UltraViolet Spectrometer

VAB: Vehicle Assembly Building (formerly Vertical Assembly Building)

VAFB: Vandenberg Air Force Base

VEEGA: Venus-Earth-Earth Gravity Assist (Galileo flight path)

VHF: Very High Frequency

VLA: Very Large Array

VLBA: Very Long Baseline Array

VLBI: Very Long Baseline Interferometry

VLF: Very Low Frequency

VLT: Very Large Telescope

VMS: Vertical Motion Simulator

VOIR: Venus Orbiting Imaging Radar (superseded by VRM)

VPF: Vertical Processing Facility

VRM: Venus Radar Mapper (now called Magellan)

WD: White Dwarf

WFPC: Wide Field / Planetary Camera (on HST)

WFPCII: Replacement for WFPC

WIYN: Wisconsin / Indiana / Yale / NOAO telescope

WSMR: White Sands Missile Range

WTR: Western Test Range

WUPPE: Wisconsin Ultraviolet PhotoPolarimeter Experiment (Astro package)

XMM: X-ray Multi Mirror

XUV: eXtreme UltraViolet

YSO: Young Stellar Object

```
#!/usr/bin/perl
```

```
# 'alt', An Acronym Scrambling Program, by Larry Wall
```

```
srand;
```

```
while (<>) {
```

```
    next unless /^[A-Z]\S+)$/;
```

```
    $key = $1;
```

```
    $acro{$key} = $';
```

```
    @words = split(/\W+/, $'); 
```

```
    unshift(@words, $key);
```

```
    $off = 0;
```

```
    foreach $word (@words) {
```

```
        next unless $word =~ /^[A-Z]/;
```

```
        vec($w{$word}, $off++ % 6, 1) = 1;
```

```
        foreach $letter (A .. Z) {
```

```
            *w = $letter;
```

```
            @w = keys %w;
```

```
            if (@w < $THRESHOLD) {
```

```
                @d = `egrep '^$letter' /usr/dict/words`;
```

```
                chop @d;
```

```
                push(@w, @d);
```

```
            }
            foreach $key (sort keys %acro) {
```

```
                $off = 0;
```

```

$acro = $acro{$key};

$acro =~ s/((([A-Z])[A-Z]*)[a-z]*)/ &pick($3, $2, $1, ++$off) || $& /eg;

print "$key: $acro";

sub pick {

local($letter, $prefix, $oldword, $off) = @_;;

$i = 0;

if (length($prefix) > 1 && index($key,$prefix) < 0) {

if ($prefix eq $oldword) {

$prefix = "";

else {

$prefix = $letter;

if (length($prefix) > 1) {

local(*w) = substr($prefix,0,1);

do {

$word = $w[rand @w];

} until $word ne $oldword && $word =~ /^$prefix/i || ++$i > 30;

$word =~ s/^$prefix/$prefix/i;

$word;

elsif (length($prefix) == 1) {

local(*w) = $prefix;

do {

$word = $w[rand @w];

} until $word ne $oldword && vec($w{$word}, $off, 1) || ++$i > 10;

$word = "\u\L$word" if $word =~ tr/a-z/A-Z/;

$word;

else {

```

```
local(*w) = substr($oldword,0,1);
```

```
do {
```

```
$word = $w[rand @w];
```

```
} until $word ne $oldword && $word =~ tr/a-z/A-Z/ == 0 || ++$i > 30;
```

```
$word;
```

```
-- Mark Bradford (bradfrd2@ncar.ucar.edu) <> To err is human, to moo bovine.
```

```
"It's an ill wind that gathers no moss."
```