NASA THESAURUS SUPPLEMENT

A three-part cumulative update of the 1998 edition of the NASA Thesaurus

January 2000
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NASA THESAURUS
SUPPLEMENT

A three-part cumulative update of the 1998 edition of the NASA Thesaurus

National Aeronautics and Space Administration

January 2000
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Introduction


Part 1 (Hierarchical Listing) contains the full hierarchical structure for each new term along with all new cross references and term definitions.

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For a fuller explanation, see the Introduction (pages viii–xi) in the printed version of the 1998 NASA Thesaurus, Volume 1.

Part 2 (Rotated Term Display) is a ready reference tool which provides additional ‘access points’ to the thesaurus terminology. It contains the postable terms and nonpostable cross references found in the Hierarchical Listing (Part 1) arranged in a KWIC (key-word-in-context) index.

Part 3 (Changes) is a listing of deletions or changes to postable terms or USE references made since the 1998 edition of the NASA Thesaurus. To control the size of the Supplement, only significant changes in term hierarchies and related term lists are presented.

NOTE: Other resources and products related to the NASA Thesaurus can be found at the following URL: http://www.sti.nasa.gov/thesfrlnl.htm.

In addition to the above mentioned resources, a thesaurus listserv has been set up for submitting candidate terms and discussion of related lexicographical issues. A listing of candidate and accepted new terms is posted monthly. To subscribe to this listserv, send an e-mail message to listserv@sti.nasa.gov. Leave the subject line blank and in the message section, type SUBSCRIBE THESAURUS-L <Your name>. (Should you wish to cancel your subscription, send a message to the same address with UNSUBSCRIBE in the message section.)

Comments and suggestions regarding the NASA Thesaurus should be directed to:

Lexicographer
NASA Center for AeroSpace Information
7121 Standard Drive
Hanover, MD 21076–1320

E–mail: help@sti.nasa.gov
Fax: (301) 621–0134
Telephone: (301) 621–0114
ACE satellite
USE Advanced Composition Explorer

Advanced Composition Explorer
(added December 1999)
DEF Explorer spacecraft (launched August 25, 1997) carrying six high-resolution sensors and three monitoring instruments for sampling low-energy particles of solar origin and high-energy galactic particles. From a vantage point approximately 1/100 of the distance from the Earth to the Sun, the Advanced Composition Explorer (ACE) can perform measurements over a wide range of energy and nuclear mass, under all solar wind flow conditions and during both large and small particle events including solar flares. When reporting space weather ACE can provide an advance warning of geomagnetic storms.

UF ACE satellite
GS artificial satellites
. scientific satellites
. Explorer satellites
. . Advanced Composition Explorer
RT energetic particles
galactic cosmic rays
interplanetary medium
solar corpuscular radiation
solar cosmic rays
solar wind
space weather

aeroshells
(added May 1999)
DEF Aerodynamic structural shells that attach to, or comprise a portion of, the exterior of an aerospace vehicle or space probe; especially such structures that support atmospheric entry, aerobraking, aerossed, or hypersonic flight.
GS aerodynamic configurations
. aeroshells
RT aeromaneuvering
nose cones
reentry vehicles
spacecraft design
spacecraft shielding
spacecraft structures

Alpha Magnetic Spectrometer
(added June 1998)
UF AMS (spectrometer)
GS measuring instruments
. spectrometers
. . Alpha Magnetic Spectrometer
RT antifield
Cerenkov counters
cosmic rays
dark matter
International Space Station
interstellar matter
magnetic spectroscopy
space station payloads
spaceborne astronomy

AMS (spectrometer)
USE Alpha Magnetic Spectrometer

anisoplanatism
(added May 1999)
DEF In adaptive optics (AO) systems, a performance-degrading effect that arises whenever light from the wavefront sensor beam and light from the target object sample different volumes of optical turbulence. This effect results in an increased value of the aperture-averaged residual phase variance after AO compensation, which causes an exponential decrease in system performance.

RT aberration
adaptive optics
atmospheric correction
atmospheric optics
image resolution
optical correction procedure
phase error
telescopes

antenna gain
(added June 1998)
GS amplification
. antenna gain
RT antennas
automatic gain control
directional antennas
effectiveness
high gain
signal reception

antiphase boundaries
(added March 1998)
UF antiphase boundaries
APB (materials)
GS boundaries
. antiphase boundaries
RT binary alloys
crystal dislocations
crystal lattices
crystal structure
grain boundaries
interfacial energy
intermetallics
microstructure
order-disorder transformations
solid solutions
solid-solid interfaces
superlattices
ternary alloys

antiphase domains
USE antiphase boundaries
APB (materials)
USE antiphase boundaries
archaeomagnetism
USE paleomagnetism

associative memory
(added December 1999)
DEF A method or device for data storage in which data is identified by a part or properties of its content, rather than by an address or relative position.

RT associative memory
content-addressable memory
GS memory (computers)
. associative memory
RT associative processing (computers)
computer storage devices
neural nets
optical memory (data storage)

associative storage
USE associative memory

bevel gears
(added May 1999)
GS gears
. bevel gears
. spiral bevel gears
RT gear teeth

biomass burning
(added December 1998)
DEF Burning of vegetation in forests, grasslands, and agricultural lands usually carried out to clear the land and change its use; a significant contributor to the global budgets of many radiatively and chemically active gases and particulates in the atmosphere.

GS combustion
. biomass burning
RT air pollution
climate change
combustion products
contaminants
deforestation
evironment pollution
forest fires
man environment interactions
smoke

Biot–Savart law
(added August 1998)
DEF Law describing the intensity of a magnetic field produced by a current carrying wire. Also applied in fluid dynamics to describe the flow–velocity field induced by a vortex.

GS laws
. Biot–Savart law
RT electromagnetism
flow velocity
magnetic fields
Maxwell equation
vortices

Boeing 717 aircraft
(added October 1998)
GS Boeing aircraft
. Boeing 717 aircraft
commercial aircraft
. Boeing 717 aircraft
jet aircraft
. turbine aircraft
. Boeing 717 aircraft
monoplanes
. Boeing 717 aircraft
passenger aircraft
. Boeing 717 aircraft
transport aircraft
. Boeing 717 aircraft
RT aircraft

AM–1 (EOS) spacecraft
USE Terra spacecraft

NASA THESAUROS SUPPLEMENT

PART 1
HIERARCHICAL LISTING
bohrium
  (added May 1998)
  GS chemical elements
  . bohrium
  RT hassium
  stibadium

Bond number
  (added December 1999)
  DEF Dimensionless number representing the ratio between gravitational force and the surface tension of a bubble, drop, or meniscus.
  GS dimensionless numbers
  . Bond number
  RT drops (liquids)
  gravitational effects
  interfacial tension
  menisci

cascade devices
  (added August 1998)
  DEF Amplifier devices consisting of a common grounded-emitter (cathode) or source stage that drives a grounded-base output stage, resulting in high-impedance, high-gain, and low-noise.
  GS amplifiers
  . cascade devices
  electronic equipment
  . solid state devices
  . semiconductor devices
  . cascade devices
  RT CMOS
  field effect transistors
  high electron mobility transistors
  switching circuits
  transistor amplifiers
  transistor circuits
  transistors

chain reactions (chemistry)
  (added May 1999)
  GS chemical reactions
  . chain reactions (chemistry)
  RT chemical lasers
  combustion chemistry

chain reactions (nuclear physics)
  (added May 1999)
  GS nuclear reactions
  . nuclear fission
  . chain reactions (nuclear physics)
  RT fission products
  neutrons

Chandra X Ray Astrophysics Facility
  USE X Ray Astrophysics Facility

clamped structures
  (added February 1998)
  RT beams (supports)
  clamps
  composite structures
  joints (junctures)
  laminates
  plates (structural members)
  shells (structural forms)
  structural members
  structural vibration

cloud-to-cloud discharges
  (added August 1998)
  GS electric current
  . electric discharges
  . lightning
  . cloud-to-cloud discharges
  cloud-to-ground discharges
    (added August 1999)
    GS electric current
    . electric discharges
    . lightning
    . . cloud-to-ground discharges

Comet Nucleus Tour
  (added February 1999)
  DEF A NASA Discovery-class mission to acquire imagery and comparative spectral maps of comet nuclei and analyze comet dust flows. The mission spacecraft will fly to within 100 kilometers of at least three near-Earth comets including Comet Encke, Comet Schwassmann-Wachmann, and Comet d'Arrest.
  UF CONTOUR (mission)
  GS space missions
  . flyby missions
  . . Comet Nucleus Tour
  RT comet nuclei
  Encke comet
  Schwassmann-Wachmann comet
  swingby technique

content-addressable memory
  USE associative memory

CONTOUR (mission)
  USE Comet Nucleus Tour

Cooper-Harper ratings
  (added August 1999)
  GS flight characteristics
  . pilot ratings
  . . Cooper-Harper ratings
  RT aircraft performance
  helicopter performance

corrugated waveguides
  (added February 1998)
  GS waveguides
  . corrugated waveguides
  . gratings (spectra)
  optical waveguides
  waveguide antennas

cosmics
  USE weakly interacting massive particles

critical current
  (added December 1999)
  DEF A current value in a superconductive material, at a particular constant temperature and in the absence of a magnetic field, below which the material is superconducting and above which the material behaves normally.
  GS electric current
  . current
  . critical current
  RT critical temperature
  current density
  superconductivity
  superconductors (materials)

cuprates
  (added April 1999)
  GS copper compounds
  . cuprates
  RT BSCCO superconductors
  copper oxides
  YBCO superconductors

cycloaddition
  (added June 1998)
  DEF Pericyclic chemical reaction in which unsaturated molecules combine to form a cyclic compound under the influence of heat or light.
  GS chemical reactions
  . cycloaddition
  . . Dels–Alder reactions
  RT cyclic compounds
  photochemical reactions
  polymerization
  synthesis (chemistry)

Darkstar unmanned aerial vehicle
  USE pilotless aircraft
  reconnaissance aircraft

Deep Space 1 Mission
  (added October 1998)
  DEF First of several technology demonstration missions supporting the NASA New Millennium Program. Advanced technologies include an ion propulsion system, solar concentrator arrays, autonomous navigation and control systems, an integrated camera and imaging spectrometer, and several telecommunications and microelectronics devices. The mission plan includes a flyby of Asteroid 1992 KD.
  UF DS1 (space mission)
  GS space missions
  . Deep Space 1 Mission
  RT asteroid missions
  autonomous navigation
  flyby missions
  interplanetary spacecraft
  ion propulsion
  NASA space programs
  solar electric propulsion

defeatable mirrors
  (added May 1998)
  GS mirrors
  . defeatable mirrors
  RT adaptive optics
  light modulation
  phase modulation
  segmented mirrors

Delta 3 launch vehicle
  (added October 1998)
  GS launch vehicles
  . Delta launch vehicle
  . . Delta 3 launch vehicle

Delta 4 launch vehicle
  (added October 1998)
  GS launch vehicles
  . Delta launch vehicle
  . . Delta 4 launch vehicle

dielectric waveguides
  (added February 1998)
  GS waveguides
  . dielectric waveguides
  RT dielectrics
  microwave transmission
  optical waveguides
  waveguide antennas
  waveguide filters

differential games
  (added October 1998)
  GS games
  . differential games
  RT minimax technique
  optimal control
  pursuit–evasion games
  stochastic processes
digital cameras
(added July 1998)
GS optical equipment
  • cameras
  • digital cameras
photographic equipment
  • cameras
  • digital cameras
RT CCD cameras
digital systems
digital techniques
photogrammetry
television cameras
video equipment

dS1 (space mission)
USE Deep Space 1 Mission
dubnium
(added May 1998)
GS chemical elements
  • dubnium
dubium
RT rutherfordium
seaborgium
EAM (physical chemistry)
USE embedded atom method
ekranoplanes
USE wing-in-ground effect vehicles
electronic structure
(added April 1999)
SN (THE TERM "ATOMIC STRUCTURE" WAS USED FOR THIS CONCEPT PRIOR TO MAY 1998)
RT atomic structure
  • bond structure of solids
  • electron energy
  • electron orbitals
  • electron states
  • energy bands
  • energy gaps (solid state)
  • energy levels
  • Fermi liquids
embedded atom method
(added February 1998)
DEF A semiempirical calculation method developed by Daw and Baskes for determining the energetics of atoms in a bulk environment. The original form of the method was based on density functional theory and was intended primarily for tight-packed transition metals. More recent modifications have extended the applicability of the method to a large number of elements in the periodic table.
UF EAM (physical chemistry)
  • modified embedded atom method
RT alloys
  • crystal defects
  • grain boundaries
  • interatomic forces
  • metals
  • methodology
  • molecular dynamics
  • potential energy
enantiomeric compounds
USE enantiomers
enantiomers
(added August 1998)
DEF Isomeric pairs whose crystalline forms or molecular structures are non-superimposable mirror images.
UF enantiomeric compounds
enantiomorphs
GS isomers
  • enantiomers
RT chirality
  • crystal structure
  • isomorphism
  • molecular structure
  • stereochemistry
  • symmetry
enantiomorphs
USE enantiomers
environmental cleanup
(added February 1999)
GS cleaning
  • environmental cleanup
RT decontamination
  • environment management
  • environment protection
  • hazardous wastes
  • oil pollution
  • oil spills
  • pollution control
  • reclamation
  • soil pollution
  • waste disposal
  • waste treatment
  • water pollution
  • water treatment
EOS AM–1 spacecraft
USE Terra spacecraft
Euler–Bernoulli beam theory
USE Euler–Bernoulli beams
Euler–Bernoulli beams
(added April 1998)
UF Euler–Bernoulli beam theory
GS structural members
  • beams (supports)
  • Euler–Bernoulli beams
RT axial strain
  • bending
  • bending vibration
  • dynamic structural analysis
  • elastic properties
  • mathematical models
  • partial differential equations
  • structural analysis
  • Timoshenko beams
evanescence waves
(added March 1998)
GS surface waves
  • evanescent waves
RT acoustic impedance
  • evanescence
  • fiber optics
  • internal waves
  • plane waves
  • propagation modes
  • reflected waves
  • wave propagation
  • waves
FDTD (mathematics)
USE finite difference time domain method
finite difference time domain method
(added April 1999)
UF FDTD (mathematics)
GS analysis (mathematics)
  • numerical analysis
  • approximation
  • finite difference theory
  • finite difference time domain method
  • time domain analysis
  • finite difference time domain method
RT computational electromagnetics
  • electromagnetic scattering
free–space optical communication
(added June 1998)
GS telecommunication
  • communication
  • optical communication
  • free–space optical communication
RT high power lasers
  • laser beams
  • satellite communication
  • space communication
free–space optical interconnects
(added June 1998)
UF FSOI (integrated optics)
GS optical interconnects
  • free–space optical interconnects
RT integrated optics
  • interprocessor communication
  • optical computers
ferroelasticity
(added June 1998)
GS mechanical properties
  • elastic properties
  • ferroelasticity
RT crystal structure
  • domain wall
  • ferroelastic materials
  • ferroelectricity
  • phase transformations
  • shape memory alloys
  • smart materials
fiber pushout
(added September 1999)
GS releasing
  • fiber pushout
RT ceramic matrix composites
  • composite materials
  • debonding (materials)
  • destructive tests
  • failure modes
  • fiber composites
  • fiber pullout
  • fiber–matrix interfaces
  • fibers
  • interfacial energy
  • materials tests
  • metal matrix composites
  • reinforcing fibers
field tests
(added November 1998)
SN (EXCLUDES TESTS OF ELECTRIC, MAGNETIC, OR ELECTROMAGNETIC FIELDS)
DEF Tests carried out in the actual setting in which the subject device is intended to operate.
RT environmental tests
  • performance tests
  • tests
finite difference time domain method
(added April 1999)
UF FDTD (mathematics)
GS analysis (mathematics)
  • numerical analysis
  • approximation
  • finite difference theory
  • finite difference time domain method
  • time domain analysis
  • finite difference time domain method
RT computational electromagnetics
  • electromagnetic scattering
free–space optical interconnects
(added June 1998)
UF FSOI (integrated optics)
GS optical interconnects
  • free–space optical interconnects
RT integrated optics
  • interprocessor communication
  • optical computers
fullerides

frequency domain analysis

(frequency domain analysis

RT control systems design
dynamic response
frequency response
parameter identification
signal processing

FSOI (integrated optics)

USE free-space optical interconnects

GS carbon compounds

RT fullerides

CO alkali metal compounds
lipids
chemical compounds
doped crystals
fullerenes
superconductors (materials)

fuselage-wing stores

USE wing-fuselage stores

fusion propulsion

(added September 1999)

GS propulsion
nuclear propulsion

RT inertial confinement fusion
nuclear electric propulsion
nuclear fusion
nuclear rocket engines
plasma propulsion
spacecraft propulsion

Gabor filters

(added February 1998)

GS image filters

RT computer vision

correlation filters
Gabor transformation
image analysis
image processing
low pass filters
neural nets
spatial filtering
textures

Gabor transformation

(added February 1998)

GS transformations (mathematics)

RT Fourier transformation

Gabor filters

holography
image processing
signal analysis
wavelet analysis

games

(added October 1998)

GS games
differential games
pursuit-evasion games
war games
zero sum games

RT control theory

game theory
optimization

Genesis mission

(added February 1999)

DEF A space mission to collect solar wind samples from a halo orbit about the sun–Earth L1 point for two years, returning those samples to Earth in 2003 for analysis and examination. Analysis of the samples collected by the mission will contribute to an understanding of the origins of the solar system.

GS space missions

RT solar system evolution

GLUCOCORTICOCIDS

(added December 1999)

DEF Adrenocortical steroid hormones that are involved in the metabolism of fats, proteins, and carbohydrates, and have anti-inflammatory properties.

GS organic compounds
lipids
steroids
corticosteroids

gluco corticoids

RT adrenal gland
atrophy
carbohydrate metabolism
hormone metabolism
hypokinesia
lipid metabolism
muscles
protein metabolism

Godunov method

(added February 1998)

DEF Non-oscillatory finite-volume scheme that incorporates the exact or approximate solution to the Riemann initial-value problem, or a generalization of it.

GS analysis (mathematics)
numerical analysis
finite volume method
Godunov method procedures
finite volume method
Godunov method

RT approximation
Caucchy problem
Caucchy–Riemann equations
computational fluid dynamics
Euler equations of motion
finite difference theory
shock wave interaction
supersonic flow

H–2 control

(added February 1998)

GS automatic control
optimal control
H–2 control
optimization
optimal control
H–2 control

RT control systems design
control theory
controllers
feedback control
H–infinity control
linear quadratic Gaussian control

Hale–Bopp comet

(added July 1998)


GS celestial bodies
comets
Hale–Bopp comet

RT Oort cloud

hardware-in-the-loop simulation

(added February 1999)

UF hardware-in-the-loop tests

GS simulation
hardware-in-the-loop simulation

RT computerized simulation
control simulation
performance tests
systems simulation

hardware-in-the-loop tests

USE hardware-in-the-loop simulation

hassium

(added May 1998)

GS chemical elements

RT bohrium
methinium

head up tilt

(added March 1998)

DEF Body posture while lying on a tilt table with the head higher than the rest of the body.

UF HUT (physiology)

GS posture

RT aerospace medicine
bed rest
bioastronautics
cardiovascular system
gravitational physiology
head down tilt
hemodynamic responses
lower body negative pressure
orthostatic tolerance
physiological responses
supine position
weightlessness simulation

heavy fermion superconductors

(added April 1999)

GS conductors

superconductors (materials)
heavy fermion superconductors
intermetallics
heavy fermion systems

RT superconductors (materials)

heavy fermion systems

(added April 1999)

GS intermetallics

RT superconductors

heavy metals

(added July 1999)

DEF Metals or alloys having a high specific gravity; usually ones with a density greater than 5 grams per cubic centimeter.

GS metals

RT cadmium
chromium
contaminants
copper
industrial wastes
lead (metal)  mercury (metal)  soil pollution  toxic hazards  zinc

hindcasting
(added July 1999)
DEF The process of reconstructing the time and space evolution of an atmospheric or oceanic phenomenon that has occurred in the past, through an analysis of historical data, a mathematical–model simulation of the processes involved, or a combination of data analysis and modeling.

GS predictions  hindcasting
RT forecasting  meteorological parameters  nowcasting  oceanographic parameters  weather forecasting

HUT (physiology)  USE head up tilt

hybrid–Trefitz finite element method  USE finite element method  Trefitz method

hypothetical particles
(added November 1999)
GS particles  elementary particles  hypothetical particles  gluons  gravitinos  gravitons  partons  quarks  tachyons  weakly interacting massive particles

hypothetical planets
(added June 1998)
UF Phaethon (hypothetical planet)  planet X  transplutonic planets
GS celestial bodies  planets  hypothetical planets
RT comets  extrasolar planets  planetary orbits

in vitro methods and tests
(added May 1999)
DEF Tests of, or methods related to, biological or biochemical processes occurring in an artificial environment or outside of a living cell or organism.

RT bioassay  biotechnology  conditions  culture techniques  cytology  fertilization  histology  in vitro methods and tests  methodology  tests

in vivo methods and tests
(added May 1999)
DEF Tests of, or methods related to, biological or biochemical processes occurring within a living cell or organism.

RT bioassay  biotechnology  conditions  culture techniques  cytology  fertilization  histology  in vivo methods and tests  methodology  tests

in–flight simulation
USE in–flight simulation

In–flight simulation
(added October 1998)
DEF The use of a specialized test aircraft to simulate the flight characteristics of another vehicle. The test aircraft is typically capable of duplicating the computed responses of the simulated vehicle through special aerodynamic and control system features.

GS simulation  . flight simulation  . In–flight simulation
RT aircraft control  flight characteristics  flight control  flight simulators  flight tests  training simulators

intelligent materials
USE smart materials

Intercalibration
(added January 1999)
DEF Calibration between two or more data sources, including (1) the comparison of data sets acquired by different types of measurement systems for the purpose of deducing the calibration values for one of the measurement systems; (2) the mutual calibration of data from different measurement systems through the comparison of the data with model calculations; and (3) the calibration of multiple detectors on a single instrument through the comparison of data from each detector.

GS calibrating  . intercalibration
RT comparison  correction  multsensor applications  standardization

Intracloud discharges
(added August 1999)
GS electric current  . electric discharges  . lightning  . . . Intracloud discharges

Ion optics
(added June 1998)
RT beam waveguides  beamforming  electron optics  ion beams  ion engines  ion propulsion  mass spectrometers  optics

Iridium network
(added December 1998)
DEF A 66–satellite wireless personal telecommunications network designed to provide world-wide telephone, paging, facsimile and data services to handheld or mobile equipment.

GS networks  . communication networks  . Iridium network  . satellite constellations  . . . Iridium network
RT communication satellites  facsimile communication  mobile communication systems  satellite communication  telephony  wireless communication

Iridium satellites
USE communication satellites  Iridium network

Java (programming language)
(added December 1998)
GS languages  . . . high level languages  . . . Java (programming language)
RT C++ (programming language)  client server systems  internet  object–oriented programming  World Wide Web

Josephson effect
(added April 1999)
UF Josephson tunneling
RT electron tunneling  Josephson junctions  SIS (superconductors)  superconducting devices  superconductors (materials)

Josephson tunneling
USE Josephson effect

kink bands
(added March 1998)
RT buckling  compression loads  edge dislocations  failure modes  fiber composites  microstructure  plastic deformation  reinforcing fibers  single crystals

kinking
(added April 1998)
RT bending  buckling  compression loads  cracking (fracturing)  deformation  displacement  fiber composites  folding  heaving  twisting  wrinkling

Leaves phases
(added August 1998)
GS solid phases  . Laves phases
RT alloys  crystal lattices  crystal structure
caps for a complete Martian year. The Orbiter carries two science instruments: the Pressure Modulated Infrared Radiometer and the Mars Color Imager.

Mars Global Surveyor

DEF One of two spacecraft comprising the Mars Surveyor 98 program—launched December 1998. After obtaining a polar, nearly circular orbit around Mars, the Orbiter will serve as a radio relay during the Lander surface mission, then begin monitoring the atmosphere, surface, and polar

Mars missions

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched January 1999. After a soft landing near the Martian south pole, the Lander will search for near-surface ice and possible surface records of cyclic climate change, and characterize physical processes key to the seasonal cycles of water, carbon dioxide and dust on Mars. Prior to landing, the Deep Space 2 microprobes (part of the associated Deep Space 2 mission) for detecting water ice are also piggybacking on the Lander.

Mars Polar Lander

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched December 1998. After obtaining a polar, nearly circular orbit around Mars, the Orbiter will serve as a radio relay during the Lander surface mission, then begin monitoring the atmosphere, surface, and polar

Mars Observer

DEF Spacecraft and related mission designed to orbit Mars over a two year period and collect data on the surface morphology, topography, composition, gravity, atmospheric dynamics, and magnetic field. Launched November 1996.

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched January 1999. After a soft landing near the Martian south pole, the Lander will search for near-surface ice and possible surface records of cyclic climate change, and characterize physical processes key to the seasonal cycles of water, carbon dioxide and dust on Mars. Prior to landing, the Deep Space 2 microprobes (part of the associated Deep Space 2 mission) for detecting water ice are also piggybacking on the Lander.

Mars Surveyor 98 Lander

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched December 1998. After obtaining a polar, nearly circular orbit around Mars, the Orbiter will serve as a radio relay during the Lander surface mission, then begin monitoring the atmosphere, surface, and polar

MARS (spacecraft)

DEF Spacecraft and related mission designed to orbit Mars over a two year period and collect data on the surface morphology, topography, composition, gravity, atmospheric dynamics, and magnetic field. Launched November 1996.

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched January 1999. After a soft landing near the Martian south pole, the Lander will search for near-surface ice and possible surface records of cyclic climate change, and characterize physical processes key to the seasonal cycles of water, carbon dioxide and dust on Mars. Prior to landing, the Deep Space 2 microprobes (part of the associated Deep Space 2 mission) for detecting water ice are also piggybacking on the Lander.

Mars Surveyor 98 Program

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched December 1998. After obtaining a polar, nearly circular orbit around Mars, the Orbiter will serve as a radio relay during the Lander surface mission, then begin monitoring the atmosphere, surface, and polar

Mars Surveyor 98 Orbiter

DEF One of two spacecraft comprising the Mars Surveyor 98 program—launched December 1998. After obtaining a polar, nearly circular orbit around Mars, the Orbiter will serve as a radio relay during the Lander surface mission, then begin monitoring the atmosphere, surface, and polar

Mars Surveyor 98 Orbiter

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched January 1999. After a soft landing near the Martian south pole, the Lander will search for near-surface ice and possible surface records of cyclic climate change, and characterize physical processes key to the seasonal cycles of water, carbon dioxide and dust on Mars. Prior to landing, the Deep Space 2 microprobes (part of the associated Deep Space 2 mission) for detecting water ice are also piggybacking on the Lander.

Mars Surveyor 98 Lander

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched December 1998. After obtaining a polar, nearly circular orbit around Mars, the Orbiter will serve as a radio relay during the Lander surface mission, then begin monitoring the atmosphere, surface, and polar

Mars Surveyor 98 Program

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched January 1999. After a soft landing near the Martian south pole, the Lander will search for near-surface ice and possible surface records of cyclic climate change, and characterize physical processes key to the seasonal cycles of water, carbon dioxide and dust on Mars. Prior to landing, the Deep Space 2 microprobes (part of the associated Deep Space 2 mission) for detecting water ice are also piggybacking on the Lander.

Mars Surveyor 98 Orbiter

DEF One of two spacecraft comprising the Mars Surveyor 98 program; launched December 1998. After obtaining a polar, nearly circular orbit around Mars, the Orbiter will serve as a radio relay during the Lander surface mission, then begin monitoring the atmosphere, surface, and polar
modified embedded atom method
USE embedded atom method

nosecone shapes and designs
USE wing nacelle configurations

intermittent travel
RT spacecraft trajectory

microwave beacons
RT microwave beacons

nanosatellites
(added October 1998)
DEF Satellites with a total mass between 10 and 100 kg often incorporating miniaturized electronic and mechanical systems.
USE nanosatellites

Next Generation Space Telescope project
(added December 1999)
DEF Project in the NASA Origins program with the goal of developing a spaceborne observatory to succeed the Hubble Space Telescope after 2005. The telescope is foreseen to have an aperture of 8 meters and be optimized for near infrared wavelengths (0.6–10 μm) in order to enable the exploration of the most remote high redshift universe.
USE Next Generation Space Telescope project

nozomi
RT spacecraft

orbital position estimation
RT orbital position estimation

PDS (spectroscopy)
USE photothermal deflection spectroscopy

perfectly matched layers
(added July 1998)
DEF In the area of computational electromagnetism, an absorbing boundary condition used for terminating infinite domain calculations in the finite-difference time-domain (FDTD) or finite element methods. The approach has also been extended to the analysis of some problems in acoustics.
USE perfectly matched layers

Phobos spacecraft
(added August 1998)
DEF Two Soviet spacecraft (Phobos 1 and 2, both launched in July 1989) designed to study the plasma environment in the Martian vicinity, the surface and atmosphere of Mars, and the surface composition of the Martian satellite Phobos. Other mission objectives included the study of the interplanetary environment and solar observations.
USE Phobos spacecraft
photothermal deflection spectroscopy  
(added November 1998)  
UF PDS (spectroscopy)  
GS spectroscopy  
RT photothermal deflection spectroscopy  
Pilot opinion ratings  
USE pilot ratings  
Pilot ratings  
(added August 1999)  
DEF Subjective assessment of the handling and stability characteristics of an aircraft or other flight vehicle.  
UF pilot opinion ratings  
GS flight characteristics  
RT pilot ratings  
Cooper-Harper ratings  
Ringer plates  
USE Mindlin plates  
RTich renewable energy  
(added December 1998)  
GS renewable energy  
RT thermal energy utilization  
RT electrical energy utilization  
RT energy policy  
RT energy sources  
RT energy technology  
RT geothermal energy conversion  
RT biomass energy production  
RT clean energy  
RT policy  
RT bioconversion  
RT ocean thermal energy conversion  
RT solar energy conversion  
RT waste utilization  
RT water energy conversion  
Ringleb flow  
(added July 1998)  
GS fluid flow  
RT compressible flow  
RT steady flow  
RT three dimensional flow  
RT two dimensional flow  
RT critical flow  
RT subsonic flow  
RT transonic flow  
Rocket-based combined-cycle engines  
(added August 1999)  
DEF Launch vehicle engines that integrate a high specific impulse, low thrust-to-weight, airbreathing engine with a low-impulse, high thrust-to-weight rocket. The engines are often defined by four modes of operation in a single-stage-to-orbit configuration. In the first mode, the engine functions as a rocket-driven ejector. When the rocket engine is switched off, subsonic combustion (mode 2) is present in the ramjet mode. As the vehicle continues to accelerate, supersonic combustion (mode 3) occurs in the ramjet mode. Finally, as the edge of the atmosphere is approached and the engine inlet is closed off, the rocket is reignited and the final ascent to orbit is undertaken in an all-rocket mode (mode 4).  
UF RBCC engines  
GS engines  
RT rocket engines  
RT rocket-based combined-cycle engines  
RT air breathing boosters  
RT air breathing engines  
Sea-viewing Wide Field-of-view Sensor  
(added December 1998)  
UF SeaWiFS  
GS scanners  
RT chlorophylls
Coastal Zone Color Scanner
ocean surface
phytoplankton
remote sensors
satellite-borne instruments
water color

SeaWiFS
USE Sea-viewing Wide Field-of-view Sensor

Service Module (ISS)
(added March 1999)
DEF Primary Russian component of the International Space Station providing an early station living quarters and life support systems; functions to all early elements. Also provides propulsive attitude control and reboost capability for the early station.

GS modules
. . . space station modules
. . . Service Module (ISS)
RT International Space Station
life support systems

Shergotty Nakhla Chassigny meteorites
USE SNC meteorites

Shuttle Superlightweight Tank
USE external tanks
propellant tanks

SLWT (propellant tank)
USE external tanks
propellant tanks

smart materials
(added March 1998)
DEF Engineered materials capable of responding to their environment to a significant degree, by virtue of intrinsic properties and/or built-in sensor/actuator elements. Applications of these materials include vibration suppression/isolation, precision positioning, damage detection, and tunable devices.

UF intelligent materials
RT actuators
composite materials
electrochemical fluids
electrostriction
ferroelastic materials
ferroelectric materials
ferromagnetic materials
∞ materials
piezoelectric ceramics
∞ sensors
shape memory alloys
smart structures
vibration damping

SNC meteorites
(added March 1998)
DEF Meteorites with petrologic characteristics, isotopic signatures, trapped gas compositions, and relatively young crystallization ages (less than 1.3 billion years), which together point to a Martian origin. The name of these meteorites is derived from first three known examples—Shergotty, Nakhla, and Chassigny.

UF Martian meteorites
Shergotty Nakhla Chassigny meteorites
GS celestial bodies
. . . meteorites
. . . stony meteorites
. . . achondrites
. . . . SNC meteorites
RT chassignites

Mars (planet)
Mars surface
nakhites
shergottites

sonochemistry
USE ultrasonic processing

space station modules
(added November 1998)
GS modules
. . . space station modules
. . . Kvant modules
. . . Priroda module
. . . Service Module (ISS)
. . . Unity connecting module
RT air locks
compartment
International Space Station
Mir space station
orbital assembly
space-flexible structures
space station structures
spacecraft modules

space tourism
(added April 1998)
GS space industrialization
. . . space tourism
tourism
. . . space tourism
RT space commercialization
space transportation

space weather
(added June 1998)
SN (FOR METEOROLOGICAL CONDITIONS RELATED TO THE MIDDLE AND LOWER ATMOSPHERES OF NON- EARTH PLANETS USE "PLANETARY METEOROLOGY")
DEF The dynamic, highly variable conditions of the geospace environment that encompasses the sun, the interplanetary medium, and the Earth magnetosphere-ionosphere-thermosphere system. Major contributing factors include variations in the solar wind, solar flares, and solar mass ejections. Effects of space weather phenomena include performance degradation of communication, navigation, and power systems on both spacecraft and ground-based systems; and potential health hazards during extravehicular activity.

RT Advanced Composition Explorer
aerospace environments
aerospace safety
Earth ionosphere
Earth magnetosphere
Earth orbital environments
geomagnetism
ionospheric disturbances
magnetic disturbances
magnetic storms
radiation hazards
solar activity effects
solar terrestrial interactions
space plasmas
weather

spiral bevel gears
(added May 1998)
GS gears
. . . bevel gears
. . . . spiral bevel gears

Starfust Mission
(added March 1999)
DEF First U.S. mission launched to robotically obtain samples in deep space and return them to Earth. The NASA Discovery-class mission will return dust samples collected from the debris cloud surrounding the nucleus of Comet Wild 2. Interstellar dust will also be collected. The mission spacecraft takes advantage of an Earth gravity-assist maneuver to reach the comet, and uses an aerogel–based dust collector.

GS space missions
. . . flyby missions
RT comet nuclei
interstellar matter
Wild 2 comet

stopped leaders
(added August 1999)
GS electric current
. . . electric discharges
. . . lightning
. . . leaders (meteorology)
. . . stepped leaders

superhumps (astronomy)
(added October 1998)
RT accretion disks
astronomical photometry
binary stars
cataclysmic variables
dwarf novae
eclipsing binary stars
stellar spectrophotometry

Terra spacecraft
(added June 1999)
DEF First in a series of EOS (Earth Observing System) spacecraft developed to advance the understanding of the ways that the Earth’s lands, oceans, air, ice, and life function as a total environmental system. The spacecraft carries five high-resolution instruments: the Advanced Spaceborne Thermal Emission Radiometer (ASTER), the Clouds and the Earth Radiant Energy System (CERES), the Multi–Angle Imaging Spectroradiometer (MISR), the Moderate Resolution Imaging Spectroradiometer (MODIS), and the Measurements of Pollution in the Troposphere (MOPITT) instrument.

UF AM-1 (EOS) spacecraft
EOS AM-1 spacecraft
GS artificial satellites
. . . Terra spacecraft
. . . Earth Observing System (EOS)
. . . Terra spacecraft
RT Earth observations (from space)
remote sensing

thermal lenses
USE thermal lensing

thermal lensing
(added November 1998)
UF thermal lenses
GS thermal lensing
thermal blooming
RT atmospheric optics
focusing
laser beams
photothermal deflection spectroscopy
wave front deformation

thermocapillary migration
(added September 1999)
DEF Phenomenon where droplets (or bubbles) in a host fluid with a uniform temperature gradient migrate to the hot end of the host fluid because of the temperature dependence of the interfacial energy of the droplets.

RT bubbles
capillary flow
Transition Region and Coronal Explorer

Tourism

Titan 4B launch vehicle

Titan 4B launch vehicle

Tropical Rainfall Measuring Mission satellite

Tropical Rainfall Measuring Mission satellite

very large transport aircraft

water sampling
DEF Rotor devices that use gasdynamic waves to transfer energy rather than the motion of solid surfaces. Typically, they consist of a series of passages arranged on a drum which rotates about an axis. Through rotation, the ends of the passages are periodically exposed to various circumferentially arranged ports which initiate the traveling expansion or compression waves within the passages. The particular circumferential location of the ports determines the thermodynamic cycle of the working fluid.

GS rotating bodies
. rotors
. wave rotors
RT compression waves
energy transfer
engine parts
gas dynamics
gas generators
gas turbine engines
topping cycle engines
turbomachinery
turboshifts
wave generation

weakly interacting massive particles
(added November 1999)
DEF Hypothetical elementary particles predicted by supersymmetry theories, that interact only through gravity and weak-type interactions; postulated to account for dark matter in the Universe.

UF cosmions
WIMPs (astronomy)
GS particles
. elementary particles
. . hypothetical particles
. . . weakly interacting massive particles
RT dark matter
missing mass (astrophysics)
solar neutrinos

WIG vehicles
USE wing–in–ground effect vehicles

Wild 2 comet
(added March 1999)
DEF Periodic comet, discovered January 1978, relatively new to the inner Solar System due to a shift in its orbit caused by the gravitational influence of Jupiter.

GS celestial bodies
. comets
. . Wild 2 comet
RT Stardust Mission

WIMPs (astronomy)
USE weakly interacting massive particles

wing–body and tail configurations
USE body–wing and tail configurations

wing–body configurations
USE body–wing configurations

wing–in–ground effect vehicles
(added December 1999)
DEF Vehicles designed to fly about half their mean chord above the surface, taking advantage of the reduced drag and increased lift caused by ground effect. These vehicles, also known as WIGs or WIGEs, normally operate above a water surface.

UF ekranoplanes
WIG vehicles
GS ground effect machines
. wing-in-ground effect vehicles
RT ground effect (aerodynamics)
surface effect ships

X–32 aircraft
(added October 1998)
DEF Experimental supersonic strike fighter developed to be configured as a conventional or short takeoff/vertical landing vehicle. Developed as part of the Joint Strike Fighter (JSF) program.

GS Boeing aircraft
. X–32 aircraft
. jet aircraft
. X–32 aircraft
research vehicles
. research aircraft
. X–32 aircraft
supersonic aircraft
. X–32 aircraft
V/STOL aircraft
. X–32 aircraft

X–35 aircraft
(added October 1998)
DEF Experimental strike fighter incorporating a vertical lift fan for short takeoff/vertical landing capability. Developed as part of the Joint Strike Fighter (JSF) program.

GS jet aircraft
. X–35 aircraft
Lockheed aircraft
. X–35 aircraft
research vehicles
. research aircraft
. X–35 aircraft
V/STOL aircraft
. X–35 aircraft

X–43 vehicle
(added September 1999)
DEF The experimental research vehicle of the NASA Hyper–X program designed to flight validate key propulsion and related technologies for air-breathing hypersonic aircraft.

GS aerospace vehicles
. X–43 vehicle
hypersonic vehicles
. X–43 vehicle
research vehicles
. X–43 vehicle
RT hypersonic flight
Pegasus air-launched booster
supersonic combustion ramjet engines

Zarya control module
(added November 1998)
DEF Component of the International Space Station providing propulsion, steering, and communications during the early assembly stages of the station; later serving as a docking port and fuel tank. Zarya was built by Russia under contract to the U.S. and is owned by the U.S.

GS modules
. space station modules
. . Zarya control module
RT International Space Station

Zenit launch vehicles
(added January 1999)
GS launch vehicles
. Zenit launch vehicles
RT sea launching
Ukrainian space program
NASA THESAURUS SUPPLEMENT

PART 2

ROTATED TERM DISPLAY

NUMERALS

AM- 1 (EOS) spacecraft
use Terra spacecraft

Deep Space 1 Mission
EOS AM- 1 spacecraft
use Terra spacecraft

Wild 2 comet
H- 2 control
Delta 3 launch vehicle
Delta 4 launch vehicle
Titan 48 launch vehicle
X- 32 aircraft
X- 35 aircraft
X- 43 vehicle
Mars Surveyor 98 Lander
use Mars Polar Lander
Mars Surveyor 98 Orbiter
use Mars Climate Orbiter
Mars Surveyor 98 Program
Boeing 717 aircraft
Mars Surveyor 2001 Mission

A

ACE satellite
use Advanced Composition Explorer
content-addressable memory
use associative memory
Advanced Composition Explorer
aerial vehicle
use pilotless aircraft
reconnaissance aircraft
aeroshells
Boeing 717 aircraft
use very large transport aircraft
VLTA (aircraft)
use very large transport aircraft
X-32 aircraft
X-35 aircraft
Alpha Magnetic Spectrometer
AM-1 (EOS) spacecraft
use Terra spacecraft
EOS AM-1 spacecraft
use Terra spacecraft
AMS (spectrometer)
use Alpha Magnetic Spectrometer

analysis
analysis
analysis
ancestralism
antenna gain
antiphase boundaries
antiphase domains
use antiphase boundaries
antiproton interactions
APB (materials)
use antiphase boundaries
archaeomagnetism
use paleomagnetism
associative memory

associative storage
use associative memory

MACHOS (astronomy)
use massive compact halo objects

superhumps (astronomy)

WIMPs (astronomy)
use weakly interacting massive particles
Chandra X Ray Astrophysics Facility
use X Ray Astrophysics Facility
Euler-Bernoulli beam theory
use Euler-Bernoulli beams

Euler-Bernoulli beams
use Euler-Bernoulli beam theory

Euler-Bernoulli beams
bevel gears
spiral bevel gears
biomass burning

Blot-Savart law

wing-body and tail configurations
use body-wing and tail configurations

wing-body configurations
use body-wing configurations

Boeing 717 aircraft
bohrium
Bond number

Bopp comet

antiphase boundaries

burning

C

digital

cameras
cascode devices

chain reactions (chemistry)

chain reactions (nuclear physics)

Chandra X Ray Astrophysics Facility
use X Ray Astrophysics Facility

Chassigny meteorites
use SNC meteorites

Shergotty Nakhla meteorites
use SNC meteorites

chain reactions (chemistry)

EAM (physical chemistry)
use embedded atom method

MEAM (physical chemistry)
use embedded atom method
clamped structures

cleanup

environmental cleanup

Mars Climate Orbiter
cloud-to-

cloud discharges

13
cloud
could-to-ground discharges
combined-cycle engines
comet
rocket-based
Hale-Bopp
Wild 2
free-space optical
massive
Advanced
enantiomeric
nacelle wing
configurations
use enantiomers
wing-body
configurations
use body-wing configurations
wing-body and tail
configurations
use body-wing and tail configurations
Unity
connecting module
content-addressable memory
use enantiomers
CONTOUR (mission)
use Comet Nucleus Tour
H-2
control
moderate
Zarya
Transition Region and
Coronal Explorer
corrugated waveguides
use weakly interacting massive particles
critical current
critical
rocket-based combined-cycle engines
cycloaddition

D
Darkstar unmanned aerial vehicle
use pilotless aircraft
reconnaissance aircraft
Deep Space 1 Mission
deflection spectroscopy
deflectable mirrors
Delta 3 launch vehicle
Delta 4 launch vehicle
determination
determination
orbit
cascade
MEMS (electromechanical devices)
use microelectromechanical systems
dielectric waveguides
difference time domain method
differential games
digital cameras
discharges
use antiphase boundaries
DS1 (space mission)
dubnium

E
EAM (physical chemistry)
use embedded atom method
effect
effect vehicles
ekranoplanes
use wing-in-ground effect vehicles
PML (electromagnetism)
use perfectly matched layers
MEMS (electromechanical devices)
use microelectromechanical systems
element method
use finite element method
Trefftz method
modified
embedded atom method
enantiomeric compounds
use enantiomers
enantiomers
enantiomorphs
use enantiomers
renewable
energy
engines
use rocket-based combined-cycle engines
rocket-based combined-cycle engines
environmental cleanup
AM-1 (EOS) spacecraft
use Terra spacecraft
EOS AM-1 spacecraft
use Terra spacecraft
Euler-Bernoulli beam theory
use Euler-Bernoulli beams
Euler-Bernoulli beams
evanescence waves
pursuit
Advanced Composition
Rossi X Ray Timing
Explorer
use X Ray Timing Explorer
Transition Region and Coronal
Explorer

F
Chandra X Ray Astrophysics
use X Ray Astrophysics Facility
FDTD (mathematics)
use finite difference time domain method
fermion superconductors
fermion systems
ferroelastic materials
ferroelasticity
fiber pushout
Sea-viewing Wide Field-of-view Sensor
field tests
Gabor
filters
finite difference time domain method
finite element method
Trefftz method
in-flight simulation
flow
free-space optical communication
free-space optical interconnects
frequency domain analysis
FSOI (integrated optics) use free-space optical interconnects
fullerides
fuselage–wing stores use wing–fuselage stores
fusion propulsion

G
Gabor filters
Gabor transformation
antenna
differential
pursuit–evasion
zero sum
bevel
spiral bevel
scene
generation
Next
Generation Space Telescope project
Genesis mission
Mars
Global Surveyor
gluocorticoids
Godunov method
ground discharges
ground effect vehicles

H
H–2 control
Hale–Bopp comet
massive compact
halo objects
hardware–in–the–loop simulation
hardware–in–the–loop tests
use hardware–in–the–loop simulation
Cooper–Harper ratings
hasium
head up tilt
heavy fermion superconductors
heavy fermion systems
heavy metals
hindcasting
HUT (physiology)
use head up tilt
hybrid–Trefftz finite element method
use finite element method
Trefftz method
hypothetical particles
use hypothetical planets
hypothetical planets

I
III stars
inflight simulation
use in–flight simulation
FSOI (integrated optics) use free-space optical interconnects
intelligent materials
use smart materials
weakly interacting massive particles
interactions
intercalibration
interconnects
intracloud discharges
ion optics
Iridium network

J
Java (programming language)
scarf
Josephson effect
Josephson tunneling
use Josephson effect

K
kink bands
kinking

L
Mars Polar
Mars Surveyor 98 Lander
use Mars Polar Lander
Java (programming language)
very large transport aircraft
Delta 3
Delta 4
Titan 4B
Venture Star
Long March
Zent
Laves phases
Biot–Savart law
perfectly matched stepped leaders
leaders
leaders (meteorology)
thermal lenses
use thermal lensing
thermal lening
lithium batteries
Long March launch vehicles
hardware–in–the–loop simulation
hardware–in–the–loop tests
Lunar Prospector

M
MACHOs (astronomy)
use massive compact halo objects
magnetic nozzles
Alpha Magnetic Spectrometer
magnetostratigraphy
Long March launch vehicles
Mars Climate Orbiter
Mars Global Surveyor
Mars missions
Mars Orbiter
Mars Polar Lander
Mars Surveyor 98 Lander
use Mars Polar Lander
Mars Surveyor 98 Orbiter
use Mars Climate Orbiter
Mars Surveyor 98 Program
Mars Surveyor 2001 Mission
Martian meteorites
use SNC meteorites
massive compact halo objects
weakly interacting perfectly matched layers
use antiphase boundaries
transplutonic planets
use hypothetical planets
Mindlin plate theory
use Mindlin plates
Mindlin plates
use Mindlin plates
Reissner-Mindlin plates
use Mindlin plates
PML (electromagnetism)
use perfectly matched layers
Mars
Polar Lander
polyvinylidene
use vinylidene
Population III stars
primordial stars
use Population III stars
ultrasonic processing
Mars Surveyor 98
Ukrainian space
Java
Next Generation Space Telescope
NGST
SLWT (propellant tank)
use external tanks
propellant tanks
proportional navigation
Lunar Propector
proton-antiproton interactions
pursuit-evasion games
fiber

S

water sampling
Tropical Rainfall Measuring Mission
sat
use TRMM satellite
ACE satellite
use Advanced Composition Explorer
RXTE (satellite)
use X Ray Timing Explorer
TRACE satellite
use Transition Region and Coronal Explorer
TRMM satellite
use communication satellites
Iridium network
Biot- Savart law
scarf joints
scene generation
acreech tones
Sea-viewing Wide Field-of-view Sensor
seaborgium
SeaWIFS
use Sea-viewing Wide Field-of-view Sensor
Sea-viewing Wide Field-of-view
hardware-in-the-loop
in-flight simulation
in-flight

R

Tropical Rainfall Measuring Mission
use TRMM satellite
Cooper-Harper pilot opinion
ratings
use pilot ratings
Chandra X-ray Observatory
Ray Astrophysics Facility
use X Ray Astrophysics Facility
Rossi X-ray Timing Explorer
use X Ray Timing Explorer
RBCC engines
use rocket-based combined-cycle engines
chain reactions (chemistry)
chain reactions (nuclear physics)
Transition Region and Coronal Explorer
Reissner-Mindlin plates
use Mindlin plates
renewable energy
Ringleb flow
rocket-based combined-cycle engines
Rossi X-ray Timing Explorer
use X Ray Timing Explorer
wave rotors
RXTE (satellite)
use X Ray Timing Explorer

AM-1 (EOS) spacecraft
use Terra spacecraft
EOS AM-1 spacecraft
use Terra spacecraft
MGS (spacecraft)
use Mars Global Surveyor
Phobos spacecraft
Planet-B spacecraft
use Nozomi Mars Orbiter
Terra spacecraft
Alpha Magnetic Spectrometer
AMS (spectrometer)
use Alpha Magnetic Spectrometer
PDS (spectroscopy)

photothermal deflection spectroscopy

spectroscopy spiral bevel gears

Stardust Mission

Population III stars

primordial space

stars station modules stepped leaders

associative storage use associative memory

fuselage-wing stores use wing-fuselage stores

electronic structure clamped structures

zero sum games

heavy fermion superconductors superhumps (astronomy)

Shuttle Superlightweight Tank use external tanks propellant tanks

Mars Global Surveyor

Mars Surveyor 98 Lander

Mars Surveyor 98 Orbiter

Mars Surveyor 98 Program

Mars Surveyor 2001 Mission

time synchronization systems

heavy fermion microelectromechanical systems

T

wing-body and tail configurations use body-wing and tail configurations

Shuttle Superlightweight Tank use external tanks propellant tanks

SLWT (propellant tank) use external tanks propellant tanks

Next Generation Space Telescope project

Terra spacecraft

field hardware-in-the-loop tests use hardware-in-the-loop simulation

in vitro methods and tests use tests

in vivo methods and tests use tests

Euler-Bernoulli beam theory use Euler-Bernoulli beams

Mindlin plate theory use Mindlin plates

thermal lenses use thermal lensing thermal lensing

thermocapillary migration

tilt time domain analysis time domain method

finite difference time synchronization

Rossi X Ray Timing Explorer use X Ray Timing Explorer

Titan 4B launch vehicle

tones

Comet Nucleus Tour

PDS (spectroscopy) use photothermal deflection spectroscopy

photothermal deflection spectroscopy spiral bevel gears

Stardust Mission

Population III stars

primordial space

stars station modules stepped leaders

associative storage use associative memory

fuselage-wing stores use wing-fuselage stores

electronic structure clamped structures

zero sum games

heavy fermion superconductors superhumps (astronomy)

Shuttle Superlightweight Tank use external tanks propellant tanks

Mars Global Surveyor

Mars Surveyor 98 Lander

Mars Surveyor 98 Orbiter

Mars Surveyor 98 Program

Mars Surveyor 2001 Mission

time synchronization systems

heavy fermion microelectromechanical systems

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wing-body and tail configurations use body-wing and tail configurations

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field hardware-in-the-loop tests use hardware-in-the-loop simulation

in vitro methods and tests use tests

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Euler-Bernoulli beam theory use Euler-Bernoulli beams

Mindlin plate theory use Mindlin plates

thermal lenses use thermal lensing thermal lensing

thermocapillary migration

tilt time domain analysis time domain method

finite difference time synchronization

Rossi X Ray Timing Explorer use X Ray Timing Explorer

Titan 4B launch vehicle

tones

Comet Nucleus Tour
evanescent waves weakly interacting massive particles

space weather

Sea-viewing Wide Field-of-view Sensor
WIG vehicles
use wing-in-ground effect vehicles

Wild 2 comet
WIMPs (astronomy)
use weakly interacting massive particles

wing-body and tail configurations
use body-wing and tail configurations

wing-body configurations
use body-wing configurations

nacelle wing configurations
use wing nacelle configurations

wing-in-ground effect vehicles

fuselage-wing configurations

X planet X
use hypothetical planets

X-32 aircraft
X-35 aircraft
X-43 vehicle

Chandra X Ray Astrophysics Facility
use X Ray Astrophysics Facility

Rossi X Ray Timing Explorer
use X Ray Timing Explorer

Z Zarya control module
Zenit launch vehicles
zero sum games
No term changes or deletions were made during this period.
The NASA Thesaurus Supplement is a cumulative update to the 1998 edition of the NASA Thesaurus (NASA/SP-1998-7501). The Supplement, published every six months, includes all new terms and associated hierarchies added since the cutoff for the 1998 edition (December 1997). Parts 1 and 2 (Hierarchical Listing and Rotated Term Display) correspond to Volumes 1 and 2 of the 1998 printed edition. Definitions are included in Part 1; uppercase/lowercase forms are provided in both Parts 1 and 2. Part 3 is a list of deletions or changes to valid terms.