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Fall 2010

September 28, 2010

Stacy Bruss

Keith Martin

Information Services Division

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Session Goals

- Introduce you to select information resources in science and technology, some resources you might not know
- Show multi-disciplinary and subject-specific sites
- Search tips

National Institute of Standards and Technology (NIST)

- Reference librarians in the Information Services Division
- About 3000 science and technology researchers
- NIST promotes U.S. innovation and industrial competitiveness by advancing measurement science, standards and technology

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- Extensive
- Evaluated
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Science in the News

EPA Releases Rulemaking Guidance on Environmental Justice (HQ)

Rhode Island Airport Corp. and Contractors Fined for Reporting Violations at

Single Celled Food Factories of the Arctic [ICESCAPE]

Open Innovation in the Science and Technology Community

More Science News

Explore Selected Science Websites by Topic

Agriculture & Food
Food Safety, Gardening, Pesticides, Veterinary Science ...

Applied Science & Technologies
Biotechnology, Electronics, Engineering, Transport ...

Astronomy & Space
Exploration, Planets, Space Technologies ...

Biology & Nature
Animals & Plants, Ecology, Genetics, Pest Control ...

Computers, Communication & Mathematics
Hardware, Software, Models, Simulation ...

Earth & Ocean Sciences
Land, Maps, Natural Disasters, Oceans, Weather ...

Energy & Energy Conservation
Energy Use, Fossil Fuel, Solar, Wind ...

Environment & Environmental Quality
Air/Water/Noise Quality, Cleanup, Climate Change ...

Health & Medicine
Disease, Health Care, Nutrition, Mental Health ...

Physics & Chemistry
Astrophysics, Biophysics, Chemicals ...

Natural Resources & Conservation
Ecosystems, Energy Resources, Forest Science, Mining ...

Science Education
Homework Help, Teaching Aids, Science Internships ...

Featured Websites

- ★ GeoPlatform - Gulf Response
- ★ NASA - Messenger
- ★ National Marine Protected Areas Center
- ★ Featured Sites Archive

Special Collections

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Science.gov

Browse topic: (Science.gov home) > **Astronomy and Space**

Narrower topics:

Astronomy
Space Exploration and Development
Space Technologies

A B C D E H I L N P R S T W

A:
Aerospace - Provides information about aerospace publication available for sale from the U.S. Government Bookstore [Government Printing Office]

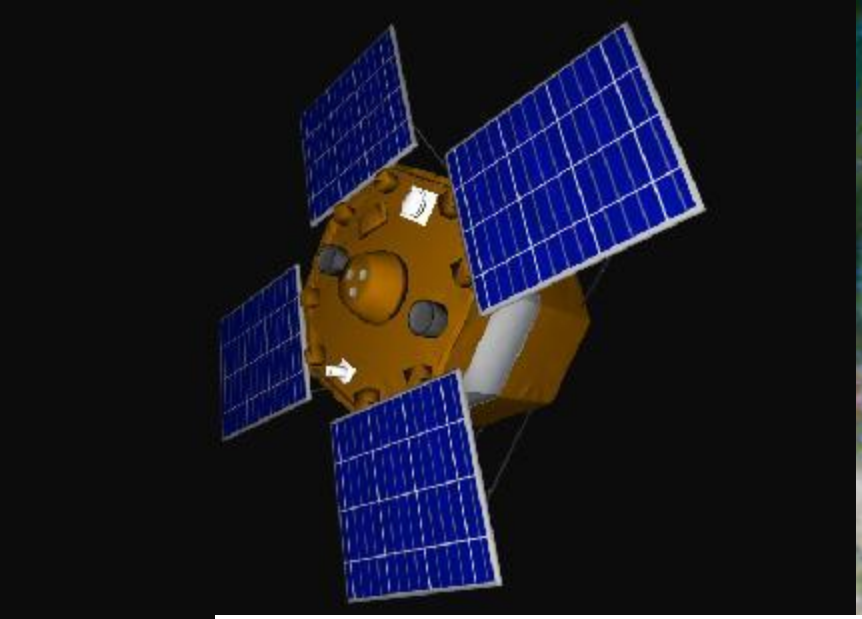
Archaeoastronomy - Science Tracer Bullet (December, 2008) - Guide to resources at the Library of Congress on the interdisciplinary study of prehistoric, ancient, and traditional astronomies within their cultural context. Its sources include both written and archaeological remains and it embraces calendrics, practical observation, sky lore, celestial myth, and more. Its true scope establishes it as an "anthropology of astronomy." [Library of Congress]

Astrobiology: Life in Space. - A Webcast of a presentation at the Library of Congress by Dr. Daniel (Danny) Glavin, Astrobiologist at NASA's Goddard Space Flight Center. [Library of Congress]

Astrogeology Research Program - Primary homepage for the Astrogeology Research Program with links to solar system, space missions, technology, data & information, research programs for geology, remote sensing, and ice & polar, hot topics, photo gallery, and Astro Kids [Department of the Interior, U.S. Geological Survey (USGS), Astrogeology Research Program]

Astronomy -- Selected Internet Resouced - Selected Internet Resources -- Astronomy. Science Reference Services; Science Reference Section; Library of Congress [Library of Congress]

B:
Bibliographies & Research Guides Listed by Subject - Bibliographies, guides, finding aids, produced by the Science Reference Section of the Library of Congress, and arranged by subject. [Library of Congress]



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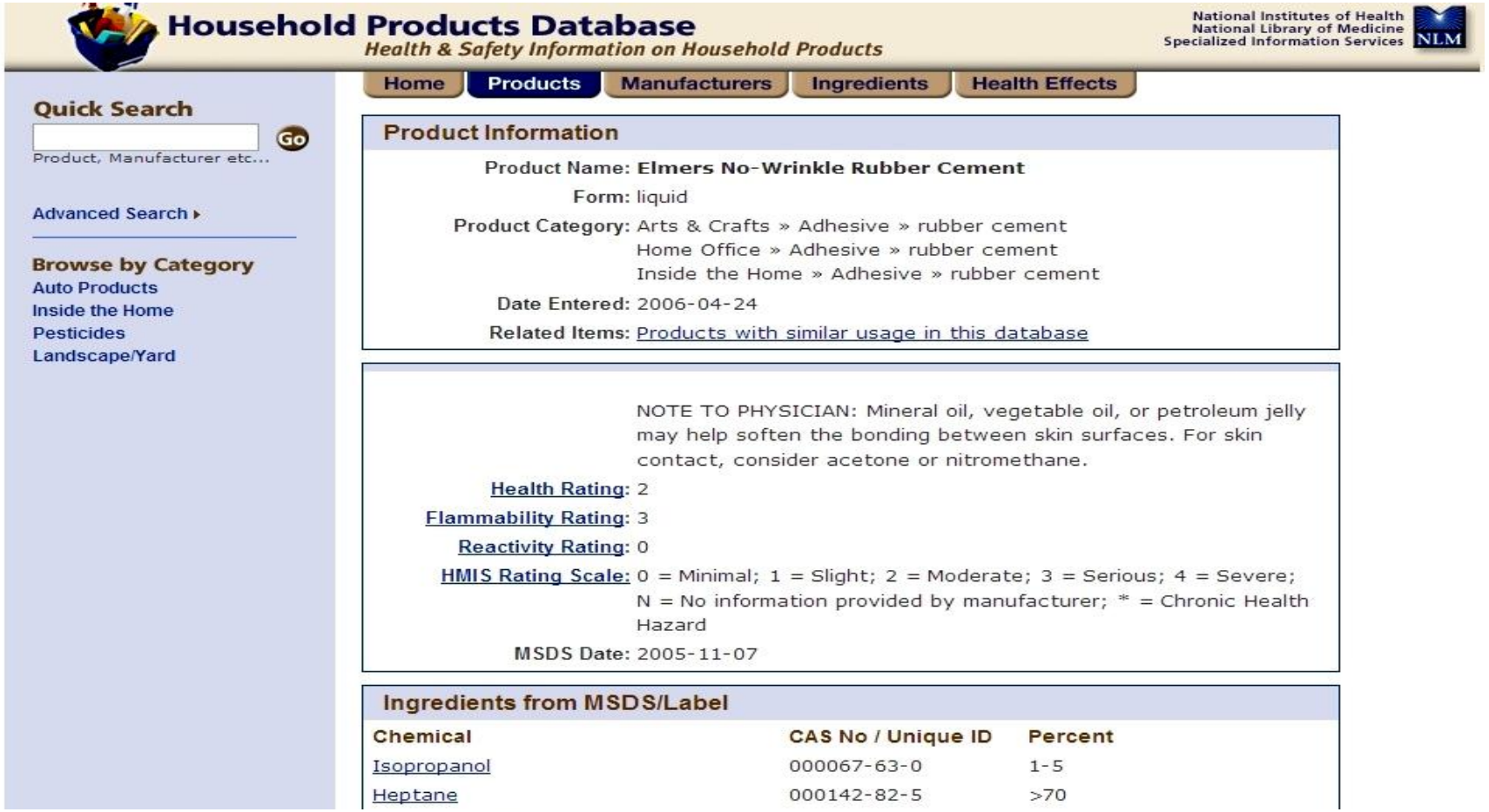
www.nasa.gov/multimedia/

Household Products Database

hpd.nlm.nih.gov

Household Products Database

hpd.nlm.nih.gov



Household Products Database

hpd.nlm.nih.gov

Chemical Information

Chemical Name: **Heptane**

CAS Registry Number: 000142-82-5

Synonyms: Heptane; n-Heptane

Information from other National Library of Medicine databases

Health Studies: Human Health Effects from Hazardous Substances Data Bank (HSDB)

Toxicity Information: Search TOXNET

Chemical Information: Search ChemIDplus

Biomedical References: Search PubMed

Products that contain this ingredient

Brand	Category	Form	Percent
Decorating Magic Spray Glitter-Gold	Arts & Crafts	aerosol	
Decorating Magic Prof Spray Glue	Arts & Crafts	aerosol	
Decorating Magic Spray Glitter-Multi	Arts & Crafts	aerosol	

PubMed - pubmed.gov

- From the National Library of Medicine, National Institutes of Health
- Search tips:
  - For the most precise subject searches, use the MeSH thesaurus to search for terms to use in PubMed search queries
  - Reviews are preferred for comprehensive background on a subject
  - Can filter by citations with links to free full text

PubMed

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J Pharmacol Sci. 2006 May;101(1):3-6. Epub 2006 Apr 28.

Recent advances in molecular pharmacology of the histamine systems: regulation of histamine H1 receptor signaling by changing its expression level.

Miyoshi K, Das AK, Fujimoto K, Horio S, Fukui H.

Department of Molecular Pharmacology, Graduate School of Health Biosciences, The University of Tokushima, Japan.

Abstract

Histamine H1 receptor (H1R) signaling is regulated by changing its expression level. Two mechanisms are involved in this regulation. One is down-regulation through receptor desensitization. Receptor phosphorylation seemed crucial because stimulation of the mutant H1R lacking five putative phosphorylation sites did not show down-regulation. The phosphorylation level of the mutant receptor was much smaller than that of the wild type ones by several protein kinases. The other is up-regulation through activation of receptor gene expression. Protein kinase C (PKC) signaling was suggested to be involved in this up-regulation. Regulation of H1R expression level was mediated not only through H1R but also autonomic nerve receptors. Stimulation of M3 muscarinic receptors (M3R) induced both down-regulation and up-regulation of H1R. Down-regulation of M3R-mediated H1R seemed not to be mediated by PKC activation, although PKC activation induced H1R phosphorylation. Elevation of H1R expression was induced by the stimulation of M3Rs. PKC was suggested to be involved in this up-regulation. Stimulation of beta2-adrenergic receptors induced H1R down-regulation through several mechanisms. One of them is enhanced receptor degradation after desensitization and another is suppression of receptor synthesis that includes the suppression of receptor gene expression and enhanced degradation of the receptor mRNA. Protein kinase A was suggested to be involved in enhanced degradation and the activation of the receptor gene expression. Elevation of both H1R expression and its mRNA was observed in nasal mucosa of nasal hypersensitivity allergy model rat after toluene diisocyanate provocation. These results suggest that activation of H1R gene expression plays an important patho-physiological role in allergy. Elevation of the mRNA was partially but significantly suppressed by antihistamines.

PMID: 16648669 [PubMed - indexed for MEDLINE] Free Article

Publication Types, MeSH Terms, Substances

Publication Types:

Review

MeSH Terms:

Animals
Astrocytoma/pathology
CHO Cells
Cricetinae

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Related citations

Histamine H1 receptor down-regulation mediated by M3 muscar [J Pharmacol Sci. 2004]

Heterologous up-regulation of the histamine H1 receptor by M3 musc [J Pharm Pharmacol. 2007]

Homologous and heterologous phosphorylations of hun [J Pharmacol Sci. 2004]

Review [Role of therapeutics for allergic diseases in targeting h [Yakugaku Zasshi. 2007]

Review Regulation of muscarinic M2 receptors. [Life Sci. 1997]

See reviews...

See all...

Cited by 2 PubMed Central articles

H4 histamine receptors mediate cell cycle arrest in growth factor-induced murin [PLoS One. 2009]

Histamine receptor H1 is required for TCR-mediated p38 MAPK ac [J Clin Invest. 2007]

All links from this record

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ref     "The C++ Answer Book", Addison-Wesley, 1990, ISBN 0-302-11497-6

lib     idioms
for     code from Coplien's, "Advanced C++ Programming Styles and Idioms"
by      James O. Coplien
ref     "Advanced C++ Programming Styles and Idioms", Addison-Wesley, 1992, ISBN 0-201-54855-0

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,       simultaneous linear equations (with possibly rectangular matrices)
,       and (pseudo)matrix inverse.
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,       interpolation over the table of uniform or arbitrary mesh, and a
,       Hook-Jeevse local multidimensional minimizer
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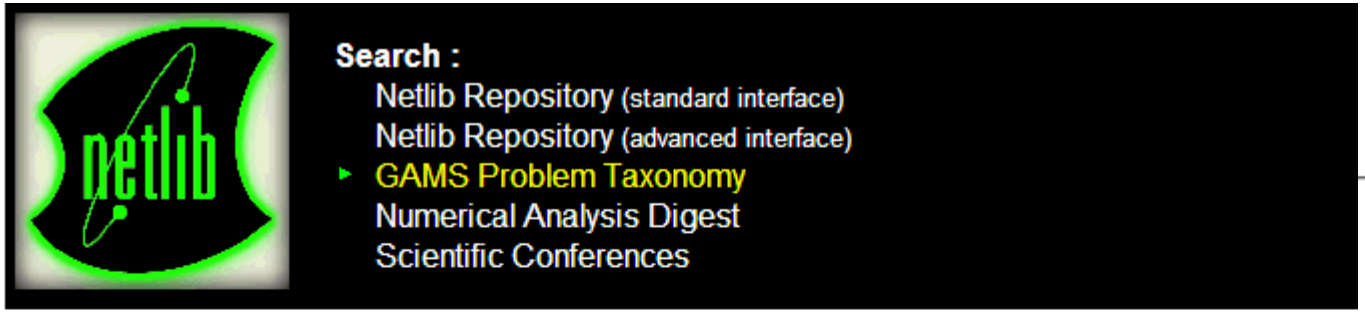

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engineering. To see what software that Netlib has available in a certain GAMS category, click the corresponding

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- A2. Rational
- A3. Real
  - A3a. Standard precision
  - A3c. Extended precision
  - A3d. Extended range
- A4. Complex
  - A4a. Standard precision
  - A4c. Extended precision
  - A4d. Extended range
- A5. Interval
- A6. Change of representation

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Title: GROUND MODIFICATION SYSTEMS (STONE COLUMNS AND WICK DRAINS IN JEFFERSON COUNTY)

Accession Number: 00738936

Language: English

Record URL: http://ntl.bts.gov/lib/17...400/17425/PB2001101580.pdf

Source Agency: University of Kentucky, Lexington
Kentucky Transportation Center
College of Engineering, 176 Raymond Building
Lexington, KY 40506-0281 USA

Abstract: The purpose of this study was to document construction procedures, monitor field performance, and make recommendations as to the effectiveness and future use of stone column and wick drains for ground modification purposes. This project involved the use of wick drains to accelerate consolidation in bridge approach foundations and stone columns to improve foundation support for reinforced soil walls supporting bridge abutments. This effort was executed by use of field inspections, photologs, and instrumentation to monitor field response. Instrumentation included earth pressuremeters, multipoint settlement gages, slope inclinometers, settlement platforms, and piezometers. Wick drain performance was satisfactory. One reinforced soil wall failed and the other was marginally stable. The failure appears to be the result of a combination of a weak foundation layer that was disturbed by stone column construction, high foundation pore pressure, and rapid wall construction.

Index Terms: Bridge abutments; Bridge approaches; Columns; Consolidation; Construction management; Deep foundations; Effectiveness; Field performance; Foundations; Instrumentation; Measures of effectiveness; Monitoring; Performance; Soil consolidation; Soil stabilization; Soils; Stabilization; Stone; Stone columns; Wick drains

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Transportation Research Thesaurus

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Top Terms > Communication and control > Communication > Communication systems > Mobile communication systems > Mobile radio > Cellular radio > **Cellular telephones**

Cellular telephones (Dsbnmcb)

Definition
Hand-held mobile radiotelephones for use in an area divided into small sections (cells), each with its own short-range transmitter/receiver. (Source: wordnet.princeton.edu)

Use For
Cell phones

Broader Term
Cellular radio (Dsbnmc)

Narrower Terms
Smartphones (Dsbnmcbs)

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Text messaging (Dsmbt)

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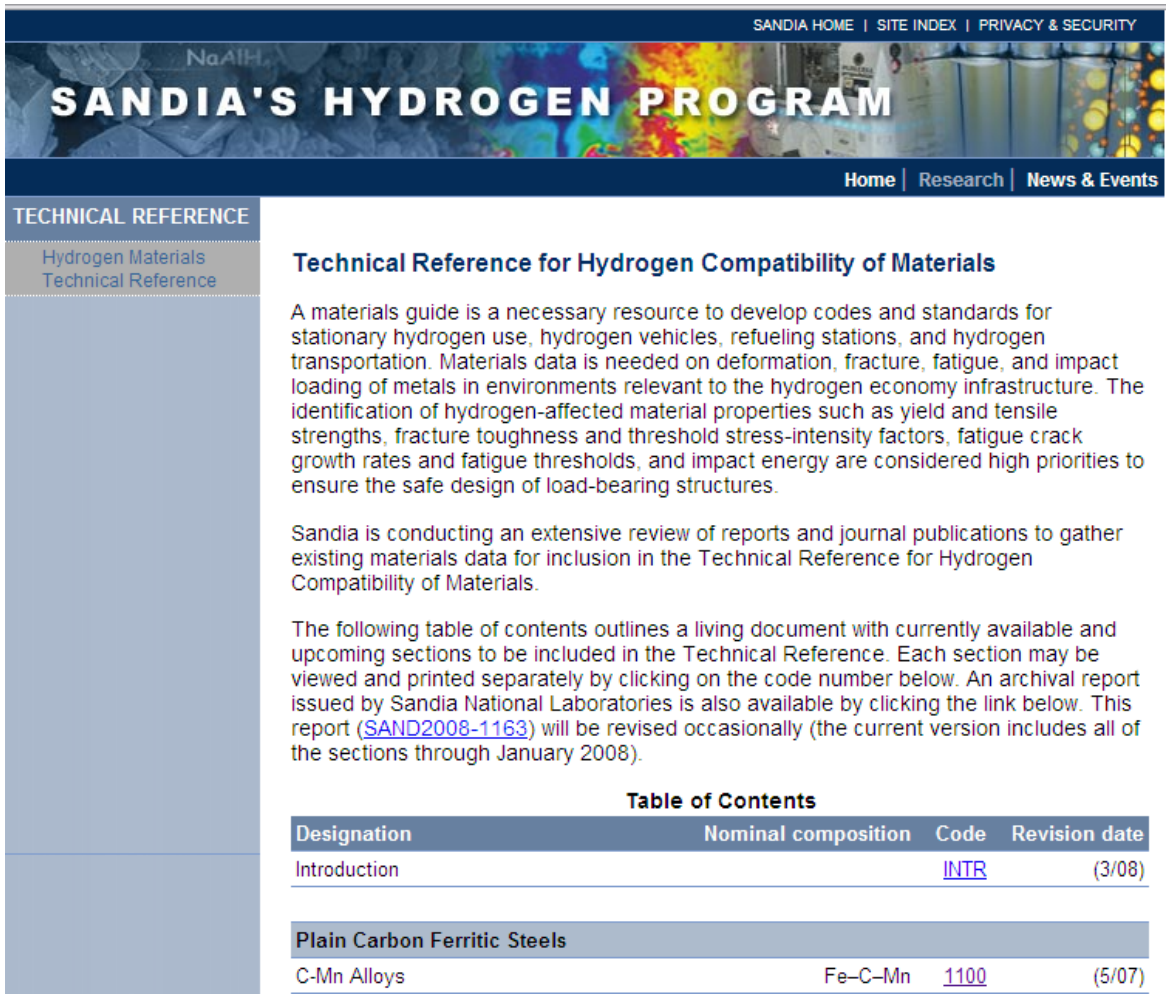
Technical Reference for Hydrogen Compatibility of Materials

www.sandia.gov/matlsTechRef/



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TECHNICAL REFERENCE

Hydrogen Materials Technical Reference

Technical Reference for Hydrogen Compatibility of Materials

A materials guide is a necessary resource to develop codes and standards for stationary hydrogen use, hydrogen vehicles, refueling stations, and hydrogen transportation. Materials data is needed on deformation, fracture, fatigue, and impact loading of metals in environments relevant to the hydrogen economy infrastructure. The identification of hydrogen-affected material properties such as yield and tensile strengths, fracture toughness and threshold stress-intensity factors, fatigue crack growth rates and fatigue thresholds, and impact energy are considered high priorities to ensure the safe design of load-bearing structures.

Sandia is conducting an extensive review of reports and journal publications to gather existing materials data for inclusion in the Technical Reference for Hydrogen Compatibility of Materials.

The following table of contents outlines a living document with currently available and upcoming sections to be included in the Technical Reference. Each section may be viewed and printed separately by clicking on the code number below. An archival report issued by Sandia National Laboratories is also available by clicking the link below. This report (SAND2008-1163) will be revised occasionally (the current version includes all of the sections through January 2008).

Table of Contents

Designation	Nominal composition	Code	Revision date
Introduction		INTR	(3/08)
Plain Carbon Ferritic Steels			
C-Mn Alloys	Fe–C–Mn	1100	(5/07)

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hydrogen material properties [Search]

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www1.eere.energy.gov/**hydrogen**andfuelcells/tech_validation/.../fcm01r0.pdf

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Calendar Year Patent Statistics

www.uspto.gov/web/offices/ac/ido/oeip/taf/reports.htm

ALL PATENTS, ALL TYPES REPORT

---- Organizational Patenting (Granted: Jan 01, 1977 - Dec 31, 2009) ---- Ranked List of Organizations with 1000 or More Patents

	Pre 1996	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	TOTAL
INTERNATIONAL BUSINESS MACHINES CORPORATION																
Patents By Year of Grant:	13098	1930	1781	2685	2778	2905	3429	3297	3438	3253	2950	3635	3134	4182	4888	57383
Patents By Year of Application:	17881	2775	3621	3789	4392	4329	3960	3408	3597	3147	2679	1870	1126	802	7	57383
CANON KABUSHIKI KAISHA																
Patents By Year of Grant:	12166	1622	1462	2007	1864	1971	1976	1951	2051	1843	1840	2387	2000	2126	2212	39478
Patents By Year of Application:	16968	2080	2509	1840	2019	1917	2141	1886	2111	1942	2016	1190	630	222	7	39478
HITACHI, LTD																
Patents By Year of Grant:	13534	970	914	1110	1024	1059	1297	1622	1907	1521	1275	1755	1407	1323	1061	31779
Patents By Year of Application:	15980	1017	1084	994	1348	1641	2234	1890	1525	1631	1095	838	418	79	5	31779
TOSHIBA CORPORATION																
Patents By Year of Grant:	12457	957	889	1237	1232	1271	1189	1181	1254	1364	1277	1727	1587	1631	1719	30972
Patents By Year of Application:	14551	1276	1385	1329	1181	1232	1465	1573	1560	1760	1463	1234	754	196	13	30972
SAMSUNG ELECTRONICS CO., LTD.																
Patents By Year of Grant:	1731	495	591	1309	1557	1449	1449	1340	1316	1617	1724	2719	3352	4276	4071	28996
Patents By Year of Application:	2925	1540	1619	1862	1484	1363	1615	2006	2910	3424	3328	2939	1374	538	69	28996
GENERAL ELECTRIC COMPANY																
Patents By Year of Grant:	15382	824	669	738	702	790	1122	1423	1142	982	905	1055	918	922	980	28554
Patents By Year of Application:	16921	738	780	921	1235	1404	1276	1155	1180	1036	989	611	258	47	3	28554
MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.																
Patents By Year of Grant:	7159	887	784	1090	1107	1216	1500	1593	1903	2060	1802	2417	2068	1684	48	27318
Patents By Year of Application:	9076	1102	1335	1418	1662	2049	2402	2230	2275	1837	1086	610	228	8	0	27318
SONY CORPORATION																
Patents By Year of Grant:	6053	945	944	1445	1641	1666	1546	1605	1470	1470	1299	1944	1681	1701	1844	27254
Patents By Year of Application:	8340	1568	2137	1812	1838	1791	1999	1585	1547	1414	1728	844	468	179	4	27254
NEC CORPORATION																
Patents By Year of Grant:	6306	1054	1105	1639	1850	2041	1970	1847	1200	829	675	738	605	532	522	22913
Patents By Year of Application:	8652	1690	2333	2348	2141	1805	1384	857	594	486	377	157	65	22	2	22913
MITSUBISHI DENKI KABUSHIKI KAISHA																
Patents By Year of Grant:	9254	939	901	1092	1073	1047	1208	1399	1264	790	624	615	483	504	551	21744
Patents By Year of Application:	11258	1088	1184	1065	1140	1334	1480	1058	611	586	388	301	181	63	7	21744
FUJITSU LIMITED																
Patents By Year of Grant:	4677	872	908	1232	1200	1155	1176	1216	1306	1302	1159	1494	1300	1483	1197	21677
Patents By Year of Application:	6951	1298	1478	1461	1286	1441	1598	1374	1165	1280	1280	725	262	76	2	21677

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  - 2007 (2)

☐ ★★★½ Piloting the **smart grid**

Faruqui, Ahmad Hledik, Ryan; Sergici, Sanem 2009-08-15

To address the likely impact of the **smart grid** on customers, utilities, and society as a whole, it may be necessary to conduct a pilot. When should a pilot be conducted and how should it be conducted? What validity criteria should the pilot satisfy?

Journal Name: Electricity Journal; Journal Volume: 22; Journal Issue: 7; Other Information: Elsevier Ltd. All rights reserved

Energy Citations Database

☐ ★★★½ How green is the **smart grid**?

Hledik, Ryan 2009-04-15

A simulation of the U.S. power system suggests that both conservative and more technologically aggressive implementations of a **smart grid** would produce a significant reduction in power sector carbon emissions at the national level.

Journal Name: Electricity Journal; Journal Volume: 22; Journal Issue: 3; Other Information: Elsevier Ltd. All rights reserved

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☐ ★★★½ Understanding The **Smart Grid**

2007-11-15

The report provides an overview of what the **Smart Grid** is and what is being done to define and implement it. The electric industry is preparing to undergo a transition from a centralized, producer-controlled network to a decentralized, user-interactive ...

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☐ ★★★☆ The **Smart Grid**: An Estimation of the Energy and CO2 Benefits

Pratt, Robert G.; Balducci, Patrick J.; Gerkensmeyer, Clint; Katipamula, Srinivas; Kintner-Meyer, Michael C.; Sanquist, Thomas F.; Schneider, Kevin P.; Secrest, Thomas J. 2010-01-27

This report articulates nine mechanisms by which the **smart grid** can reduce energy use and carbon impacts associated with electricity generation and delivery. The quantitative estimates of potential reductions in electricity sector energy and associated ...

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☐ ★★★☆ The **Smart Grid**: An Estimation of the Energy and CO2 Benefits

Pratt, Robert G.; Balducci, Patrick J.; Gerkensmeyer, Clint; Katipamula, Srinivas; Kintner-Meyer, Michael C.; Sanquist, Thomas F.; Schneider, Kevin P.; Secrest, Thomas J. 2010-01-15

This report articulates nine mechanisms by which the **smart grid** can reduce energy use and carbon impacts associated with electricity generation and delivery. The quantitative estimates of potential reductions in electricity sector energy and associated ...

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Public Law 90-396. July 11, 1968

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- "The Congress hereby finds and declares that reliable standardized scientific and technical reference data are of vital importance to the progress of the Nation's science and technology. It is therefore the policy of the Congress to make critically evaluated reference data readily available to scientists, engineers, and the general public."

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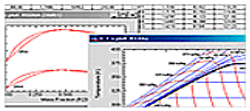


NIST Reference Fluid Thermodynamic and Transport

NIST Data Gateway

www.nist.gov/ts/msd/srd/

Databases

Journal of Physical & Chemical Reference Data

NIST Chemistry WebBook

webbook.nist.gov

Thermochemical and Reaction Data
Enthalpy of formation
Enthalpy of combustion
Heat capacity
Entropy
Phase transition enthalpies and temperatures
Vapor pressure
Enthalpy of reaction
Free energy of reaction

Ion Energetics
Ionization energy
Appearance energy
Electron affinity
Proton affinity
Gas basicity
Cluster ion binding energies

27,000+ compounds

100 Different Properties

Phase Change Data
Boiling points
Critical temperature
Normal melting (fusion) point
Enthalpy of vaporization
Enthalpy of fusion
Entropy of vaporization
Entropy of fusion at a given temperature
Enthalpy of sublimation
Phase transition temperature
Enthalpy of phase transition

Spectra
IR
Mass
UV/Vis
Electronic and Vibrational

Thermophysical Properties of Fluids
Density, specific volume
Heat capacity at constant pressure
Heat capacity at constant volume
Enthalpy
Internal energy
Entropy
Viscosity
Thermal conductivity
Joule-Thomson coefficient
Surface tension (saturation curve only)
Sound speed

NIST Chemistry WebBook

webbook.nist.gov

Constant pressure heat capacity of gas

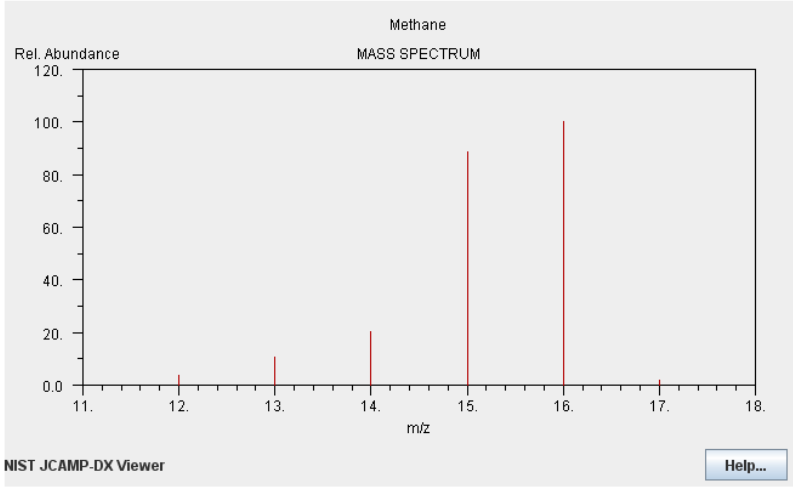
$C_{p,gas}$ (J/mol*K)	Temperature (K)	Reference	Comment
33.28	100.	Gurvich, Veyts, et al., 1989	p=1 bar. Because of more precise method of calculation, the recommended values are more accurate, especially at high temperatures, than those obtained by [McDowell R.S., 1963] and often regarded as reference data [Friend D.G., 1989].; *GT*
33.51	200.		
35.69	298.15		
35.76	300.		
40.63	400.		
46.63	500.		
52.74	600.		
58.60	700.		
64.08	800.		
69.14	900.		
73.75	1000.		
77.92	1100.		
81.68	1200.		
85.07	1300.		
88.11	1400.		
90.86	1500.		
93.33	1600.		
95.58	1700.		
97.63	1800.		
99.51	1900.		
101.24	2000.		
102.83	2100.		
104.31	2200.		
105.70	2300.		
107.00	2400.		
108.23	2500.		
109.39	2600.		
110.50	2700.		
111.56	2800.		
112.57	2900.		
113.55	3000.		

Mass spectrum (electron ionization)

Go To: Top, Gas phase thermochemistry data, Phase change data, Reaction thermochemistry data, Henry's Law data, Gas phase ion energetics data, IR Spectrum, Vibrational and/or electronic energy levels, Gas Chromatography, References, Notes / Error Report

Data compiled by: NIST Mass Spec Data Center, S.E. Stein, director

Spectrum



Additional Data

View image of digitized spectrum (can be printed in landscape orientation).

Download (or view) spectrum image in SVG format.

Download spectrum in JCAMP-DX format.

Solubility Database

srdata.nist.gov/solubility

Search By:

CAS Number
Chemical Name
Molecular Formula
Combination

Single or Multiple Component Systems

5200 Systems

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Disclaimer
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Acknowledgements

IUPAC-NIST Solubility Database
NIST Standard Reference Database 106

Solubility System: 1-Pentanol with Benzene and Water

Components:
(1) Water; H2O; [7732-18-5] NIST Chemistry WebBook for detail
(2) 1-Pentanol (pentyl alcohol, amyl alcohol, n-amyl alcohol); C5H12O; [71-41-0] NIST Chemistry WebBook for detail
(3) Benzene; C6H6; [71-43-2] NIST Chemistry WebBook for detail

Original Measurements:
Staveley, L.A.K.; Johns, R.G.S.; Moore, B.C., J. Chem. Soc. 1951, 2516-23.

Variables:
Temperature = 284 K - 341 K

Prepared By:
A. Skrzecz

Experimental Data: (Notes on the Nomenclature)

Compositions along the saturation curve

t/°C	T/K	Mass Fraction w_1 (compiler)	Mass Fraction w_2 (compiler)	Mole Fraction x_1	Mole Fraction x_2
17.2	290.35	0.007 886	0.991 493	0.006 98	0.990 830
27.8	300.95	0.007 893	0.991 228	0.006 98	0.989 217
38.0	311.15	0.007 903	0.990 841	0.006 98	0.987 591
48.2	321.35	0.007 915	0.990 366	0.006 98	0.985 602
57.8	330.95	0.007 931	0.989 745	0.006 98	0.983 010
12.8	285.95	0.013 439	0.985 886	0.0119	0.985 174
17.9	291.05	0.013 443	0.985 773	0.0119	0.984 706
22.7	295.85	0.013 449	0.985 644	0.0119	0.984 173
31.7	304.85	0.013 461	0.985 361	0.0119	0.983 005
36.3	309.45	0.013 470	0.985 159	0.0119	0.982 172
41.9	315.05	0.013 482	0.984 883	0.0119	0.981 037
49.6	322.75	0.013 502	0.984 403	0.0119	0.979 064
56.7	329.85	0.013 524	0.983 903	0.0119	0.977 020

NIST Ceramics WebBook

www.ceramics.nist.gov/webbook/evaluate.htm

Material Specification for Bi:2234; [Bi(Pb)-Sr-Ca-Cu-O]

Process: Solid State Reaction
Notes: "Bulk samples... were prepared by calcinating the stoichiometric mixture Bi_2O_3, PbO, $CaCO_3$, $SrCO_3$ and CuO powders and by heating the bulk in alumina crucibles up to 850 °C for 140 hours... The thin films with a typical thickness of 0.5 µm were prepared by sputtering... onto MgO(100) at substrate temperature of 600 °C and posterior annealing."
Formula: $Bi_{1.6}Pb_{0.4}Sr_2Ca_3Cu_4O_{10+x}$
Informal Name: Bi:2234
Chemical Family: Bi(Pb)-Sr-Ca-Cu-O
Chemical Class: Oxide
Structure Type: Polycrystalline
Manufacturer: In House
Commercial Name: In House
Production Date:
Lot Number:
Production Form:

Return to List of Materials and Properties

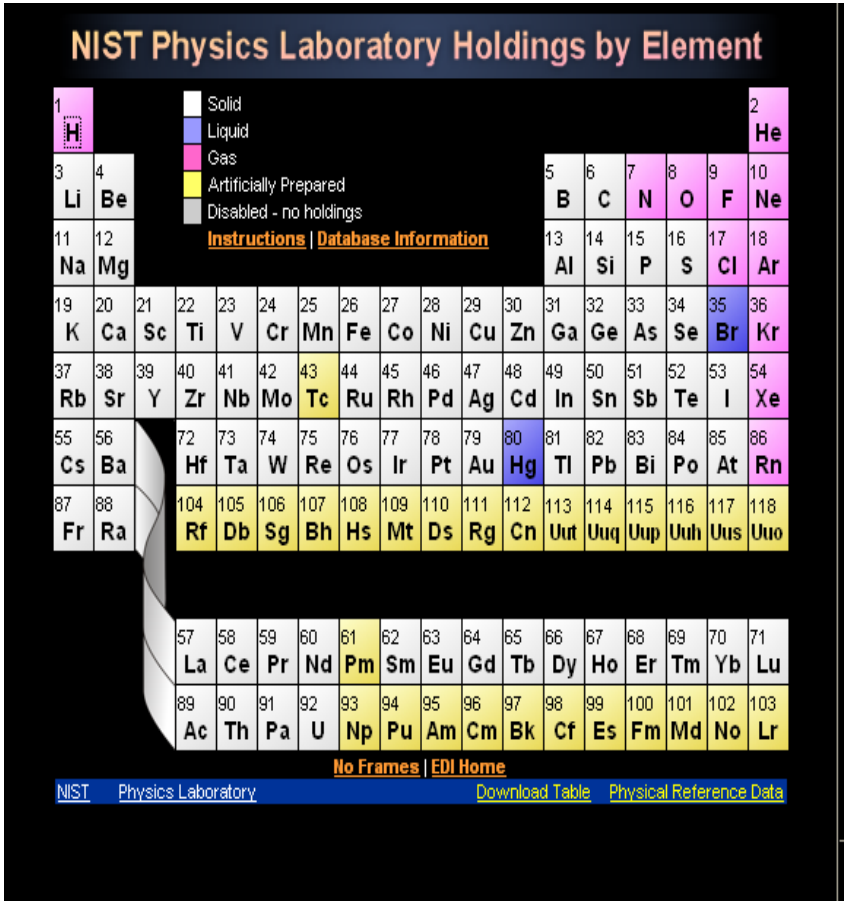
Thermoelectric Power for Bi:2234; [Bi(Pb)-Sr-Ca-Cu-O]

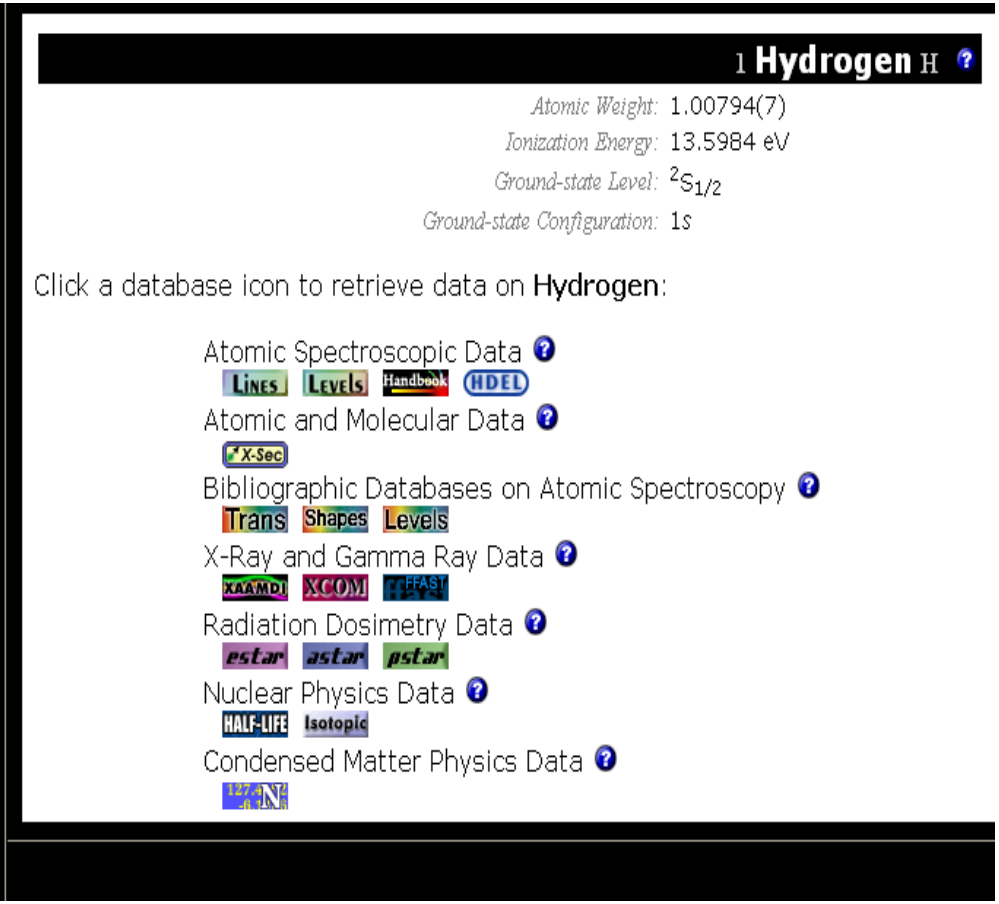
Sample Type ()	Temperature (K)	Thermoelectric Power (µV/K)
Film	88	2.7
Film	97	6.1
Film	102	9.2
Film	104	9.9
Film	120	9.3
Film	144	8.9
Film	208	6.8
Film	277	5.3
Bulk	93	0.1
Bulk	99	0.2
Bulk	106	4.6
Bulk	115	7.6
Bulk	124	7.6
Bulk	196	3.7
Bulk	239	2.8
Bulk	270	2.5

Measurement Method: Thermoelectric power method
"... the TEP measurements were made using the differential technique with ΔT=-0.1-0.2K across the sample and with a well stabilized base temperature for each measuring point. The temperature stability was controlled by use of Pt-100 sensors. The estimated absolute accuracy of TEP data is about 0.1%."

Physics Data: Elemental Data Index

physics.nist.gov/PhysRefData/Elements/





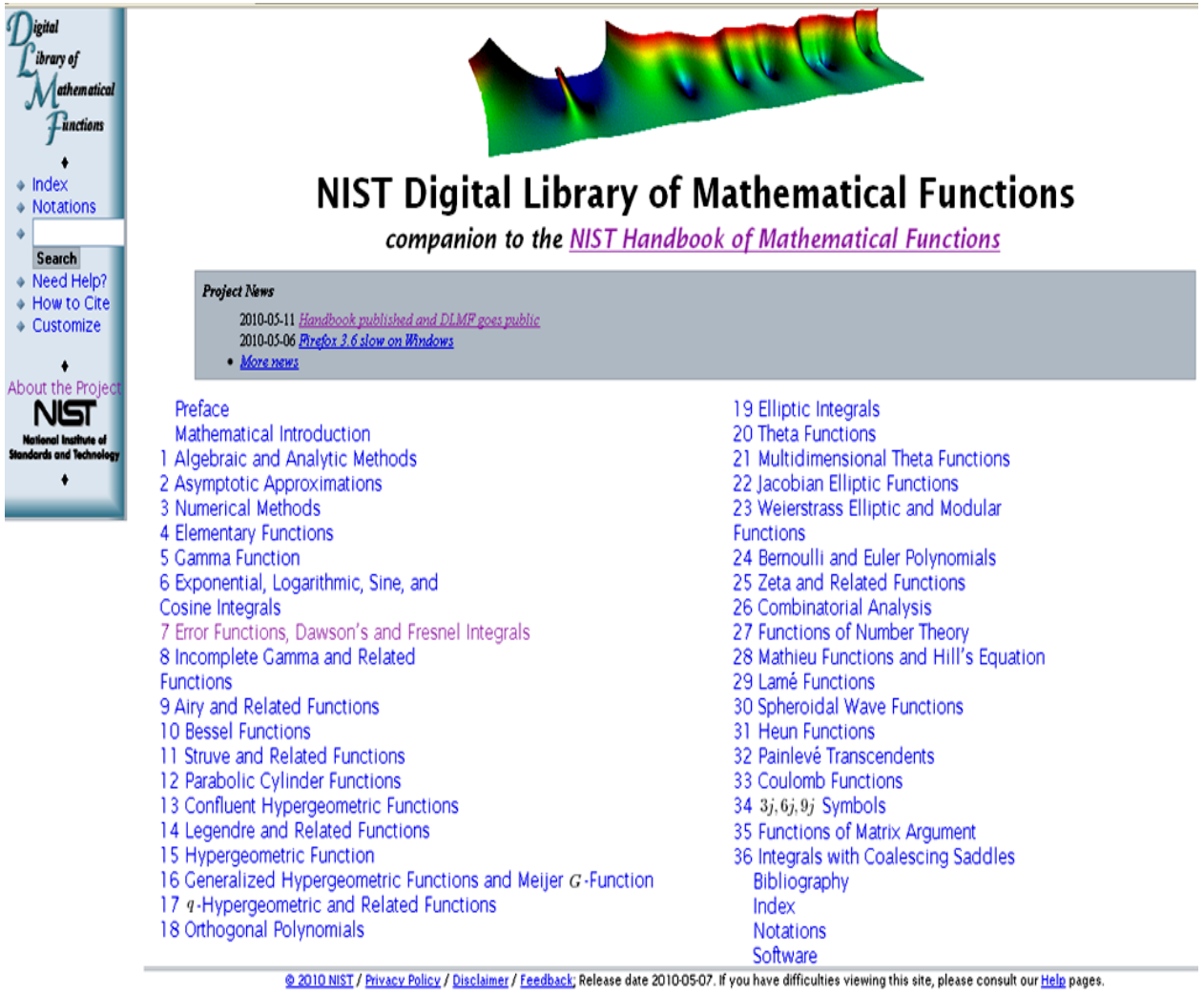
Digital Library of Mathematical Functions

dlmf.nist.gov

Reference Guide to ‘Special Functions’

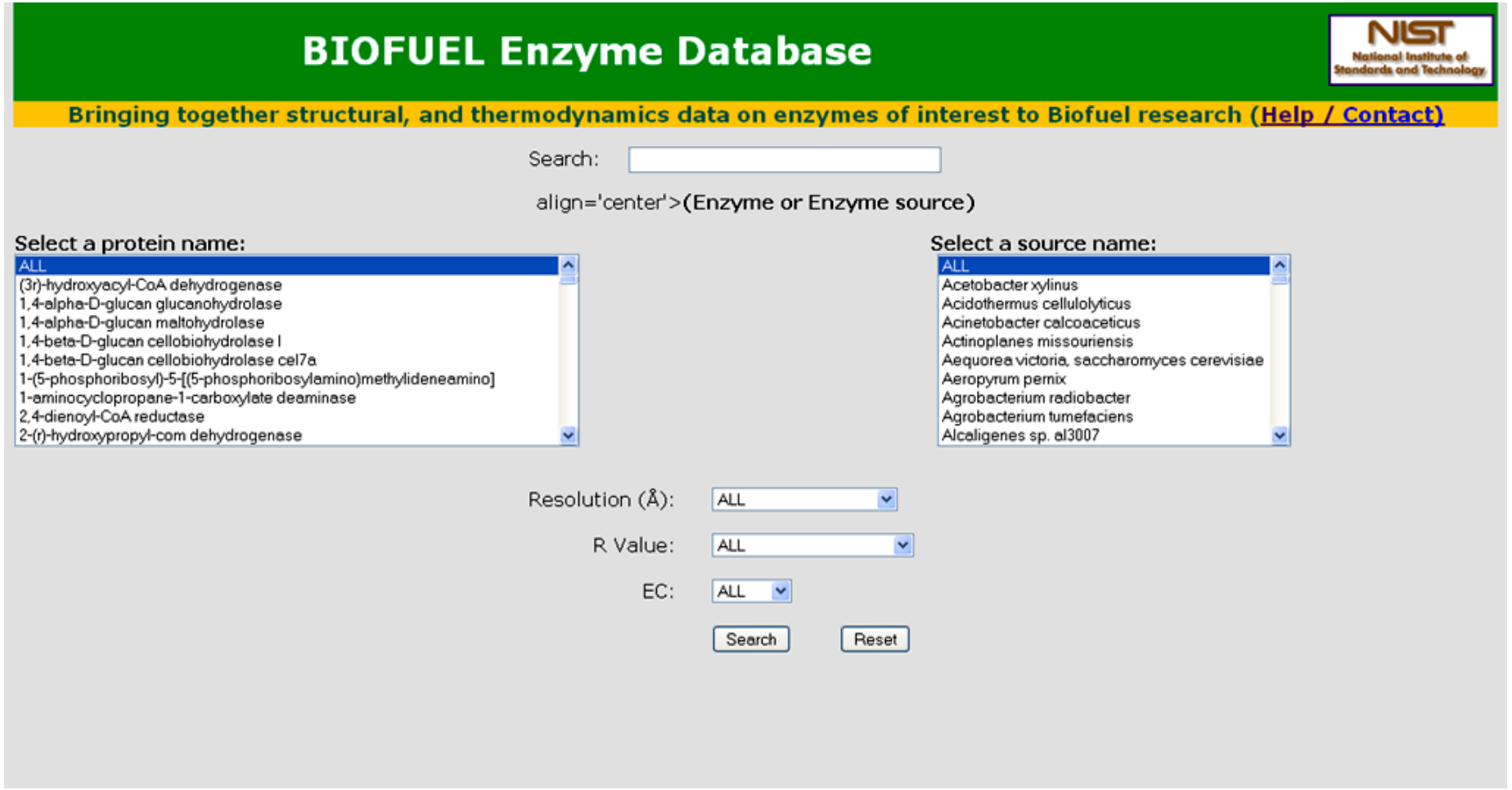
Used in:

- **Study of Natural Phenomena**
- **Engineering**
- **Computer Simulations and Modeling**
- **Statistics**
- **Financial Models**
- **Economic Analysis**



Biofuel Enzyme Database

bioinfo.nist.gov/biofuels

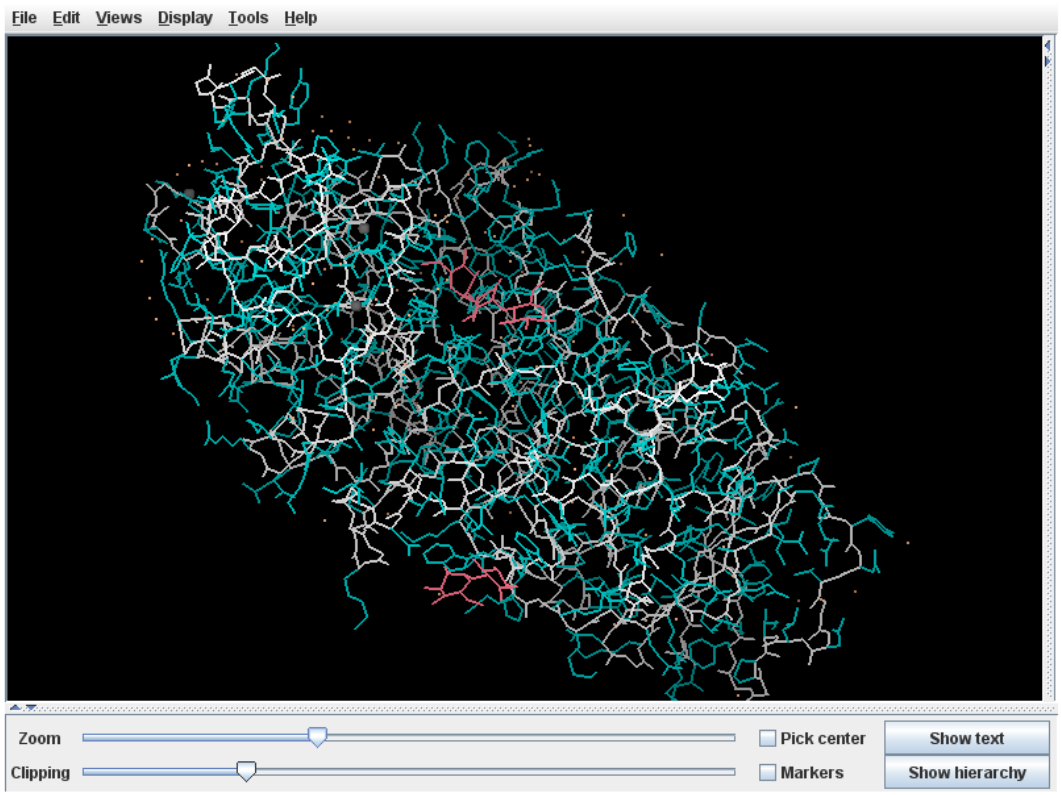


Biofuel Enzyme Database

bioinfo.nist.gov/biofuels

Kinemage View For 1BG9

Search Page Result Page StructuralInfo Page JMol

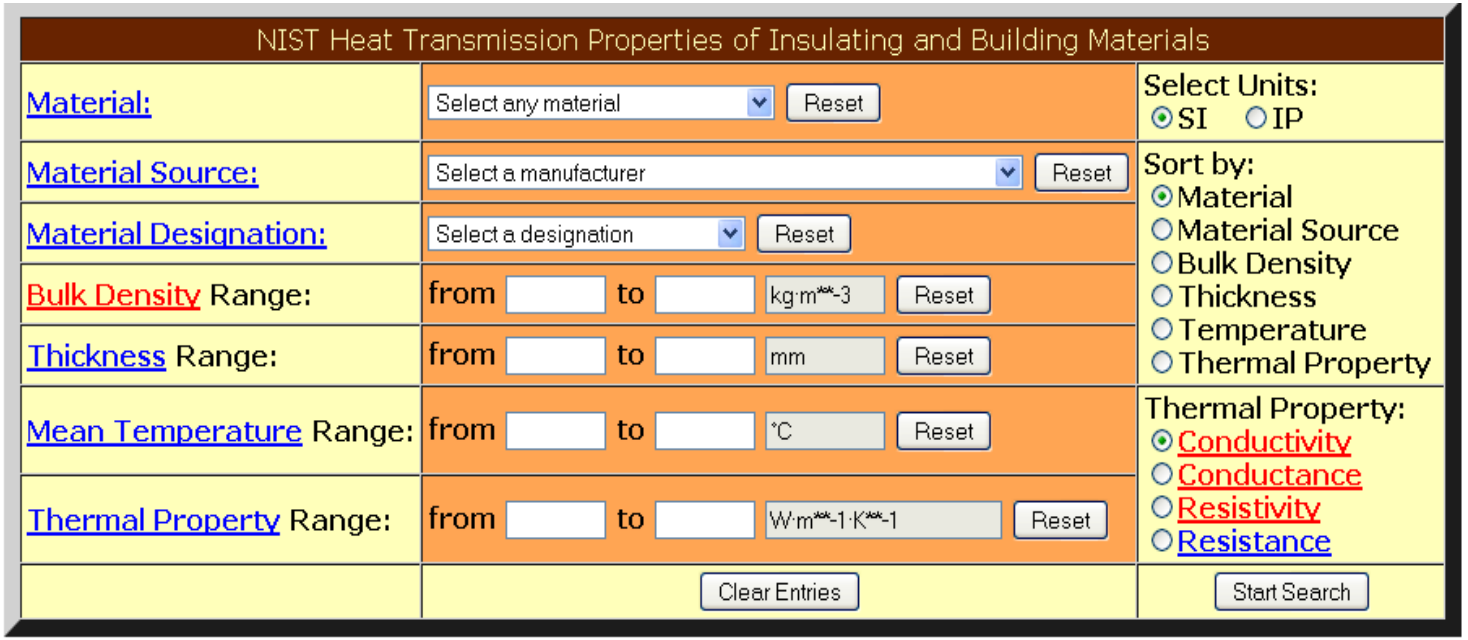


Heat Transmission Properties of Insulating and Building Materials

srdata.nist.gov/insulation

Search By
Material
Manufacturer
Trade Name

Properties
Conductivity
Conductance
Resistivity
Resistance



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This file was modified on : Thursday, November 15, 2007 at 10:42:23 AM

Heat Transmission Properties of Insulating and Building Materials

srdata.nist.gov/insulation

Results from NIST Heat Transmission Properties of Insulating and Building Materials Database

Plot Data

Total Number of Records: 7

You are searching for the following fields:

* **Density Range:** 4.19 to 2991 kg· m^{-3} (Default values)
* **Thickness Range:** 0.71 to 51.95 mm (Default values)
* **Temperature Range:** -19.02 to 58.6 °C (Default values)
* **Thermal Conductivity Range:** 0.016 to 2.3 W· m^{-1}· K^{-1} (Default values)
* **Material:** Feathers

Material	Date	Bulk Density kg· m^{-3}	Thickness mm	Mean Temperature °C	Delta T K	Thermal Conductivity W· m^{-1}· K^{-1}	Material Source	ID
Feathers	6/5/1943	16	25.68	39.8	7.8	0.0367		332
Feathers	6/7/1943	40	25.55	40	8.1	0.0344		333
Feathers	12/14/1943	25	19.76	25	11.9	0.0345		353
Feathers	12/15/1943	70	7.12	19.8	6.1	0.0318		354
Feathers	12/16/1943	20	24.66	25.6	12.6	0.0354		355
Feathers	12/17/1943	33	14.99	22.8	9.5	0.0327		356
Feathers	12/17/1943	68	7.32	20.8	7.3	0.0328		357

Total Number of Records: 7

Go Back

NIST DATA Home Page

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Questions?

Stacy Bruss

stacy.bruss@nist.gov

Keith Martin

keith.martin@nist.gov

http://bit.ly/SciTech_WSUFall10

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Seeking Science and Technology:
Web Sites Presented and Additional Links

Business

DTIC Online Acronyms – links to documents on military and government acronyms. www.dtic.mil/dtic/customer/acronyms.html

Federal R&D Project Summaries – searchable database of Federal R&D opportunities at DoD, DOE, EPA, NASA, NIH, NSF, SBA, DOT, and USDA. www.osti.gov/fedrnd/

Fedstats.gov – searchable database linking to Federal statistics from 100 agencies. www.fedstats.gov

NSF, Science and Engineering Statistics – includes publications, data, and analyses about the nation's science and engineering resources. www.nsf.gov/statistics/

US Census, Business & Industry – economic census and indicators including import and export data. www.census.gov/econ/

US Census, Annual Survey of Manufactures – includes industry statistics, value of product shipments, etc. www.census.gov/manufacturing/asm/

USGS, Commodity Statistics – mineral commodity statistics. minerals.usgs.gov/minerals/pubs/commodity/

★ USPTO, Calendar Year Patent Statistics – statistics reports on patents, by geography, organization, classification, etc. www.uspto.gov/web/offices/ac/ido/oeip/taf/reports.htm

Chemistry

ChemIDplus Advanced – chemistry database that allows searching via substance identification, toxicity, physical properties, structure, etc. and provides links to relevant information on NIH, EPA, and other government web sites. www.chem.sis.nlm.nih.gov/chemidplus/

★ Household Products Database – consumer-oriented household products database with health effects, ingredients, handling information, etc. hpd.nlm.nih.gov

★ IUPAC-NIST Solubility Database – solubility data for single and multiple component systems. srdata.nist.gov/solubility

NIOSH Pocket Guide to Chemical Hazards – physical properties and safety and health information for chemicals. www.cdc.gov/niosh/npg/

★ NIST Chemistry WebBook – property data on chemicals and compounds. webbook.nist.gov

Computers & Math

NSA, Technology Transfer – NSA computer and mathematics technology transfer (note: most agencies have technology transfer information on their web sites).
www.nsa.gov/research/tech_transfer/

★ Netlib Repository – collection of mathematical software, papers, and databases.
www.netlib.org

★ NIST Digital Library of Mathematical Functions – reference guide to special mathematical functions. dlmf.nist.gov

NIST/SEMATECH e-Handbook of Statistical Methods – reference guide to applying statistical methods to engineering problems. www.itl.nist.gov/div898/handbook/

Earth & Energy

Cool Roofing Materials Database – database with solar and thermal data of various roofing materials. eetd.lbl.gov/coolroofs/

★ DOE, Science Accelerator – federated search engine for all DOE data and bibliographic databases. www.scienceaccelerator.gov

ETDE World Energy Base – covers much of the same subjects as the DOE Science Accelerator site, but has OCR'ed text for 79,000 full-text documents.
www.ornl.gov/info/library/etdeweb.htm

geodata.gov – geographic information system portal with links to live maps, features, and catalog services, downloadable data sets, images, clearinghouses, map files, etc. www.geodata.gov

National Biological Information Infrastructure – photographs, resources, taxonomy for plants, animals, and other organisms. www.nbii.gov

★ NIST BIOFUEL Enzyme Database – data on enzymes for biofuel applications.
bioinfo.nist.gov/biofuels/

NOAA, Natural Hazards Databases – natural hazards data, images, and educational materials.
www.ngdc.noaa.gov/hazard/

Transportation Energy Data Book – includes statistics on transportation modes and the energy consumed www-cta.ornl.gov/data/

USDA, Soil Surveys by State – archived soil survey maps in PDF and links to current maps. soils.usda.gov/survey/printed_surveys/

USGS, Map Locator – free topographic maps from USGS. bit.ly/USGStopo

Engineering & Applied Science

ASSIST – repository of official DoD standards. https://assist.daps.dla.mil/quicksearch/

FIREDOC – bibliographic database of fire research literature. www.nist.gov/bfrl/firedoc.cfm

National Nanotechnology Initiative – central location for information on Federal R&D in nanotechnology. www.nano.gov

NEHRP Clearinghouse – searchable database of full-text Federal government technical reports on earthquake hazards reduction. www.nehrp.gov/library/clearinghouse.htm

★ NIST Heat Transmission Properties of Insulating and Building Materials – heat transmission properties of insulation and building materials. srdata.nist.gov/insulation/

★ Transportation Research Information Services Database – bibliographic database of transportation-related research. tris.trb.org

Materials Science

Argonne National Laboratory, Powder Diffraction Resources – includes instructional resources. 11bm.xor.aps.anl.gov/resources.html

American Mineralogist Crystal Structure Database – crystal structure database containing every structure published in the American Mineralogist including diffraction data and 3-D images. rruff.geo.arizona.edu/AMS/amcsd.php

★ Ceramics WebBook – thermal, mechanical, structural, and chemical property data on ceramics www.ceramics.nist.gov/webbook/evaluate.htm

NSF, Materials Science and Engineering Centers – links to research of universities conducting research on materials science under funding from the NSF. www.mrsec.org

★ Technical Reference for Hydrogen Compatibility of Materials – materials data and references on materials that would be relevant to the hydrogen infrastructure. www.sandia.gov/matlsTechRef/

X-Ray Interactions with Matter – database for x-ray properties of elements and compounds. henke.lbl.gov/optical_constants/

Medicine

ClinicalTrials.gov – Federal registry of clinical trials. www.clinicaltrials.gov

MedlinePlus – consumer-oriented health information. www.medlineplus.gov

National Guideline Clearinghouse – Federal clearinghouse of evidence-based clinical practice guidelines. www.guideline.gov

Protein Data Bank – experimentally-determined structures of and resources on biological macromolecules. www.rcsb.org/pdb/

PubChem – biological activities of small molecules, including structure view. pubchem.ncbi.nlm.nih.gov

★ PubMed – bibliographic database of biomedical journals and online books. www.pubmed.gov

Multidisciplinary

arXiv – repository of e-prints in physics, mathematics, computer science, quantitative biology, quantitative finance, and statistics. arxiv.org

Data.gov – repository of Federal datasets and related tools and data sources. www.data.gov

DTIC – DoD technical report repository; includes links to full text documents. www.dtic.mil

E-print Network – federated search engine of 36 institutional repositories and other e-print databases in science and technology. www.osti.gov/eprints/

Google, US Government Search– specialized Google search engine to search Federal, State, and Local Government web sites. usgov.google.com

National Science Digital Library – resources for science teaching and learning, both in K-12 and higher education. www.nsdl.org

National Technical Information Service – Federal agency technical report bibliographic database. Note: charges for copies of documents; best to find the documents you would like then go to that agency's web site to find online copies or ways to access free copies of the documents. www.ntis.gov

★ NIST Data Gateway – federated search of NIST Standard Reference Databases. www.nist.gov/ts/msd/srd/

NSF, Multimedia Gallery – multimedia gallery of NSF-funded projects or publications. www.nsf.gov/news/mmg/

★ Science.gov – web directory and federated search of 42 databases and 2000+ selected science websites from 14 federal agencies. www.science.gov

USA.gov, Science and Technology – Federal science and technology links; for the general public. www.usa.gov/Citizen/Topics/Science.shtml

WorldWideScience.org – federated search engine of science organizations and publications worldwide. www.worldwidescience.org

Physics & Astrophysics

CODATA Internationally Recommended Values of the Fundamental Physical Constants – source for recommended values of constants in physics with references. physics.nist.gov/cuu/Constants/

★ NASA, Multimedia Gallery – videos, pictures, 3D models, and other multimedia. www.nasa.gov/multimedia/

National Nuclear Decay Center – nuclear structure decay databases and tools, a nuclear reaction database, and a nuclear science bibliography database. www.nndc.bnl.gov

NIST Atomic Spectra Database – spectroscopic data according to wavelengths or energy levels. www.nist.gov/physlab/data/asd.cfm

★ NIST Physics Laboratory Elemental Data Index – federated search of NIST physics databases. physics.nist.gov/PhysRefData/Elements

SAO/NASA Astrophysics Data System – bibliographic database focusing on astronomy and astrophysics and physics; includes indexing of current journals and scanned copies of historical books and reports. adswww.harvard.edu

Smithsonian Physical Tables – classic physics reference text from 1954 in e-book form. bit.ly/SPT9th

USNO, Astronomical Applications – astronomical data and almanacs. www.usno.navy.mil/USNO/astronomical-applications