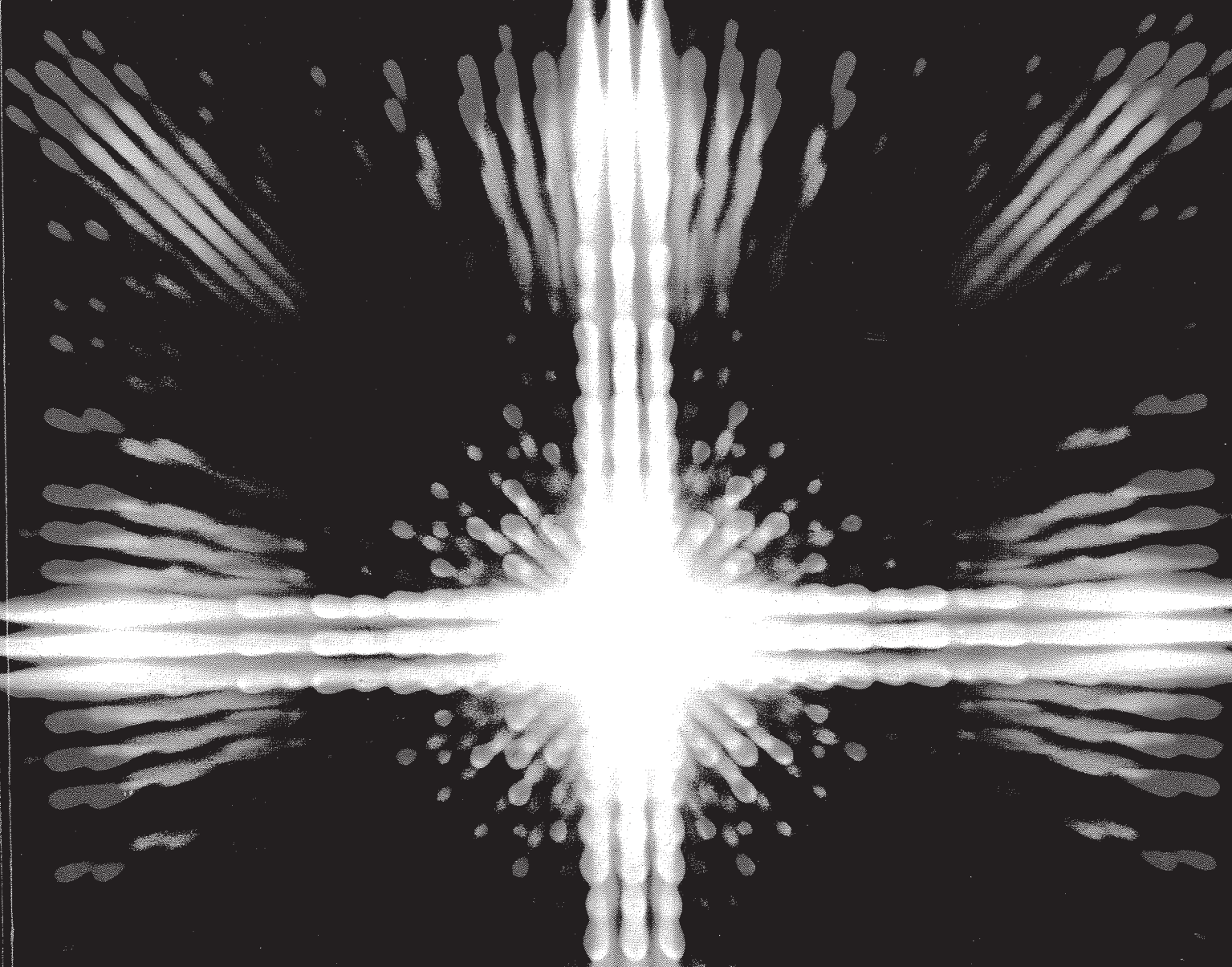


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McGraw-Hill DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS Fourth Edition



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On the cover: Pattern produced from white light by a computer-generated diffraction plate containing 529 square apertures arranged in a 23 × 23 array. (R. B. Hoover, Marshall Space Flight Center)

On the title pages: Aerial photograph of the Sinai Peninsula made by Gemini spacecraft. (NASA)

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**McGraw-Hill Dictionary of Scientific and Technical Terms,
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Hartmann dispersion formula [OPTICS] A semiempirical formula relating the index of refraction n and wavelengths λ ; $n = n_0 + a/(\lambda - \lambda_0)$, where n_0 , a , and λ_0 are empirical constants. Also known as Cornu-Hartmann formula. { 'här-t-män di'sper-zhən ,förm-yə-lə }

Hartmann flow [PL PHYS] The steady flow of an electrically conducting fluid between two parallel plates when there is a uniform applied magnetic field normal to the plates. { 'här-t-män ,flō }

Hartmann lines See Lüders lines. { 'här-t-män ,līnz }

Hartmann number [PL PHYS] A dimensionless number which gives a measure of the relative importance of drag forces resulting from magnetic induction and viscous forces in Hartmann flow, and determines the velocity profile for such flow. { 'här-t-män ,nəm'bər }

Hartmann test [OPTICS] A test for telescope mirrors in which the mirror is covered with a screen with regularly spaced holes, and a photographic plate is placed near the focus; for a perfect mirror, this results in regularly spaced dots on the plate. [SPECT] A test for spectrometers in which light is passed through different parts of the entrance slit; any resulting changes of the spectrum indicate a fault in the instrument. { 'här-t-män ,test }

Hartman's solution [ANALY CHEM] Solution of thymol, ethyl alcohol, and sulfuric ether; used for selective dentin analysis. { 'här-t-mənz sə,lü'shən }

Hart-Park virus [VIROL] A ribonucleic acid-containing animal virus of the rhabdovirus group. { 'här't 'pärk ,vī-rəs }

hartree [ATOM PHYS] A unit of energy used in studies of atomic spectra and structure, equal (in centimeter-gram-second units) to $4\pi^2me^4/h^2$, where e and m are the charge and mass of the electron, and h is Planck's constant; equal to approximately 27.21 electronvolts or 4.360×10^{-18} joule. { 'här-trē }

Hartree equation [ELECTR] An equation which gives the lowest anode voltage at which it is theoretically possible to maintain oscillation in the different modes of a magnetron. { 'här-trē i,kwā-zhən }

Hartree-Fock approximation [QUANT MECH] A refinement of the Hartree method in which one uses determinants of single-particle wave functions rather than products, thereby introducing exchange terms into the Hamiltonian. { 'här-trē ,fäk ə ,präk-sə ,mä'shən }

Hartree method [QUANT MECH] An iterative variational method of finding an approximate wave function for a system of many electrons, in which one attempts to find a product of single-particle wave functions, each one of which is a solution of the Schrödinger equation with the field deduced from the charge density distribution due to all the other electrons. Also known as self-consistent field method. { 'här-trē ,meth-əd }

Hartree units [ATOM PHYS] A system of units in which the unit of angular momentum is Planck's constant divided by 2π , the unit of mass is the mass of the electron, and the unit of charge is the charge of the electron. Also known as atomic units. { 'här-trē ,yü-nəts }

hartshorn oil See bone oil. { 'härts,hörn ,oil }

Harvard-Draper sequence [ASTRON] A system of classification of stellar spectra based on features that are found to vary in a smooth way from one star to another, and on the star's color. { 'här-vərd 'drä-pər ,sē-kwəns }

harvester [AGR] A machine used to reap field crops. { 'här-vəstər }

harvester-thresher [AGR] A machine that combines the harvesting and threshing of grain crops. { 'här-və'stər 'thresh-ər }

harvesting [AGR] The gathering of mature field crops. { 'här-və'stīŋ }

harvest moon [ASTRON] A full moon that is seen nearest the autumnal equinox. { 'här-və'st ,mün }

harzburgite [PETR] A peridotite consisting principally of olivine and orthopyroxene. { 'härts,bər,gīt }

Harz jig [MIN ENG] A device used to separate coal and foreign matter which gives pulsion intermittently with suction. { 'härts ,jīŋ }

Hasche process [CHEM ENG] A thermal reforming process for hydrocarbon fuels; it is a noncatalytic regenerative method in which a mixture of hydrocarbon gas or vapor and air is passed through a regenerative mass that is progressively hotter in the direction of the gas flow; partial combustion occurs,

liberating heat to crack the remaining hydrocarbons in a combustion zone. { 'hāsh-ə ,prās-səs }

Hasenclever turntable [MIN ENG] A turntable that is made to rotate by the friction between the positively driven pulley, the car, and the table; used as an alternative to the shunt-back or the traverser for changing the direction of mine cars or tubs, either on the surface or underground. { 'hāz-ən ,klev-ər 'tərn,tā-bəl }

hash [COMPUT SCI] Data which are obviously meaningless, caused by human mistakes or computer malfunction. Also known as garbage; gibberish. [ELEC] Electric noise produced by the contacts of a vibrator or by the brushes of a generator or motor. [ELECTR] See grass. { hash }

hash coding See hashing { 'hash ,kōd-iŋ }

Hashimoto's disease See struma lymphomatosa. { ,hā-shi'mō-dōz di,zēz }

Hashimoto's struma See struma lymphomatosa. { ,hā-shi'mō-dōz 'strü-mə }

hashing [COMPUT SCI] 1. A method for converting representations of values within fields, usually keys, to a more compact form. 2. An addressing technique that uses keys to store and retrieve data in a file. { 'hash-iŋ }

hashish [PHARM] A narcotic drug derived from the plant *Cannabis sativa*; can be smoked, chewed, or drunk. { 'hash,ēsh }

hash total [COMPUT SCI] A sum obtained by adding together numbers having different meanings; the sole purpose is to ensure that the correct number of data have been read by the computer. { 'hash 'tōd-əl }

HASP [COMPUT SCI] A technique used on some types of larger computers to control input and output between a computer and its peripheral devices by utilizing mass-storage devices to temporarily store data. Acronym for Houston Automatic Spooling Processor. { hasp }

Hassal's body See thymic corpuscle. { 'has-əlz ,bād-ē }

hastate [BIOL] Shaped like an arrowhead with divergent barbs. { 'ha,stāt }

haster [METEOROL] In England, a violent rain storm. { 'has-tər }

hastingsite [MINERAL] $\text{NaCa}_2(\text{Fe},\text{Mg})_5\text{Al}_2\text{Si}_6\text{O}_{22}(\text{OH})_2$ A mineral of the amphibole group crystallizing in the monoclinic system and composed chiefly of sodium, calcium, and iron, but usually with some potassium and magnesium. { 'hās-tīŋ,zīt }

hasty mine field [ORD] Field of mines quickly laid as a protection against an enemy attack; when practicable, it is laid in a definite pattern, as is a deliberate field, but measurements are approximate rather than exact. { 'hās-tē 'mīn ,fēld }

hat [COMMUN] To arrange a fixed quantity of symbols or groups of symbols in an entirely haphazard sequence, as if they had been drawn from a hat. { hat }

HAT See height above touch-down.

hatch [ENG] A door or opening, especially on an airplane, spacecraft, or ship. { hatch }

hatch battens [NAV ARCH] Flat bars used to fasten and make tight the edges of a tarpaulin covering a hatch. { 'hach ,bat-ənz }

hatch beam [ENG] A heavy, portable beam which supports a hatch cover. { 'hach ,bēm }

hatch carlings [NAV ARCH] Fore and aft girders running under the coamings of hatches, to which the partial or half deck beams are attached. { 'hach ,kär-liŋz }

hatch coaming [NAV ARCH] A raised frame around a hatch; it forms a support for the hatch cover and strengthens the edges of the opening. { 'hach ,kōm-iŋ }

hatch cover [ENG] A steel or wooden cover for a hatch. { 'hach ,kəv-ər }

hatch end beam [NAV ARCH] The deck beam at the fore and aft end of a hatch. { 'hach ,end ,bēm }

hatchet [DES ENG] A small ax with a short handle and a hammerhead in addition to the cutting edge. { 'hach-ət }

hatchettine See hatchettite. { 'hach-əd,ēn }

hatchettite [MINERAL] $\text{C}_{38}\text{H}_{78}$ A yellow-white mineral paraffin wax, melting at 55–65°C in the natural state and 79°C in the pure state; occurs in masses in ironstone nodules or in cavities in limestone. Also known as adipocerite; adipocire; hatchettine; mineral tallow; mountain tallow; naphthine. { 'hach-əd,īt }

hatchettolite See ellsworthite. { 'hached-ō,līt }

HARVESTER



Self-propelled combine.
(Sperry New Holland, Division
of Sperry Rand Corp.)