

**McGraw-Hill  
Dictionary of  
Scientific and  
Technical  
Terms**

**Fifth Edition**

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Editor in Chief

**On the cover: Photomicrograph of crystals of vitamin B<sub>12</sub>.  
(Dennis Kunkel, University of Hawaii)**

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### **McGRAW-HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS, Fifth Edition**

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**section line** [CIV ENG] A line representing the boundary of a section of land. [GRAPHICS] One of a series of parallel lines indicating a cut surface in a mechanical or architectural drawing. { 'sek-shən ,līn }

**section modulus** [MECH] The ratio of the moment of inertia of the cross section of a beam undergoing flexure to the greatest distance of an element of the beam from the neutral axis. { 'sek-shən 'māj-ə-ləs }

**sector** [COMPUT SCI] 1. A portion of a track on a magnetic disk or a band on a magnetic drum. 2. A unit of data stored in such a portion. [CIV ENG] A clearly defined area or airspace designated for a particular purpose. [ELECTROMAG] Coverage of a radar as measured in azimuth. [MATH] A portion of a circle bounded by two radii and an arc joining their end points. [METEOROL] Something resembling the sector of a circle, as a warm sector between the warm and cold fronts of a cyclone. { 'sek-tər }

**sectoral harmonic** [MATH] A spherical harmonic which is 0 on a set of equally spaced meridians of a sphere with center at the origin of spherical coordinates, dividing the sphere into sectors. { 'sek-tər-əl hār'mān-ik }

**sectoral horn** [ELECTROMAG] Horn with two opposite sides parallel and the two remaining sides which diverge. { 'sek-tər-əl 'hörn }

**sector boundary** [ASTROPHYS] The rapid transition from one polarity to another in the interplanetary magnetic field. { 'sek-tər ,bəʊn-drē }

**sector disk** [PHYS] A device used to reduce the intensity of a beam of light or other electromagnetic radiation by an accurately known amount; in its simplest form, it consists of a circular, opaque disk with one or more sectors cut out of it, rapidly rotating in the path of the beam. { 'sek-tər ,disk }

**sector display** [ELECTR] A display in which only a sector of the total service area of a radar system is shown; usually the sector is selectable. { 'sek-tər dī ,splā }

**sectorized light** [NAV] A light having sectors of different colors or of the same color in specific sectors separated by dark sectors. { 'sek-tərd 'līt }

**sector gate** [CIV ENG] A horizontal gate with a pie-slice cross section used to regulate the level of water at the crest of a dam; it is raised and lowered by a rack and pinion mechanism. { 'sek-tər ,gāt }

**sector gear** [DES ENG] 1. A toothed device resembling a portion of a gear wheel containing the center bearing and a part of the rim with its teeth. 2. A gear having such a device as its chief essential feature. [MECH ENG] A gear system employing such a gear as a principal part. { 'sek-tər ,gīr }

**sectorgram** See pie chart. { 'sek-tər ,gram }

**sector interleave** [COMPUT SCI] A sequence indicating the order in which sectors are arranged on a hard disk, generally so as to minimize access times. Also known as sector map. { 'sek-tər 'īn-tər ,lēv }

**sector map** See sector interleave. { 'sek-tər ,map }

**sector mark** [COMPUT SCI] A location on each sector of each track of a disk pack or floppy disk that gives the sector's address, tells whether the sector is in use, and gives other control information. { 'sek-tər ,mārk }

**sector of fire** [ORD] An area which is required to be covered by fire by an individual, a weapon, or a unit. { 'sek-tər əv 'fīr }

**sector scan** [ELECTR] A radar scan through a limited angle, as distinguished from complete rotation. { 'sek-tər ,skan }

**sector search** [NAV] A flight or sailing plan of three legs, the turning points being at equal distances along radial lines from a fixed or moving point. { 'sek-tər ,sərch }

**sector structure** [ASTROPHYS] The polarity pattern of the interplanetary magnetic field observed during a solar rotation. { 'sek-tər ,strək-tʃər }

**sector wind** [METEOROL] The average observed or computed wind (direction and speed) at flight level for a given sector of an air route; sectors for over-ocean flights usually consist of 10° of longitude. { 'sek-tər ,wīnd }

**secular** [ENG] Of or pertaining to a long indefinite period of time. { 'sek-yə-lər }

**secular acceleration** [ASTRON] An apparent gradual acceleration of the moon's motion in its orbit, as measured relative to mean solar time. { 'sek-yə-lər ək ,sel-ə'rā-shən }

**secular determinant** [MATH] For a square matrix A, the determinant of the matrix whose off-diagonal components are equal to those of A, and whose diagonal components are equal

to the difference between those of A and a parameter λ; it is equal to the characteristic polynomial in λ of the linear transformation represented by A. { 'sek-yə-lər dī'tər-mən-ənt }

**secular equilibrium** [NUCLEO] Radioactive equilibrium in which the parent has such a small decay constant that there has been no appreciable change in the quantity of parent present by the time the decay products have reached radioactive equilibrium. { 'sek-yə-lər ,ē-kwə'lib-rē-əm }

**secular parallax** [ASTRON] An apparent angular displacement of a star, resulting from the sun's motion. { 'sek-yə-lər 'pə-rə ,laks }

**secular perturbations** [ASTROPHYS] Changes in the orbit of a planet, or of a satellite, that operates in extremely long cycles. { 'sek-yə-lər ,pərdər'bā-shənz }

**secular trend** [STAT] A concept in time series analysis that refers to a movement or trend in a series over very long periods of time. Also known as long-time trend. { 'sek-yə-lər 'trend }

**secular variable** [ASTRON] A star whose brightness appears to have slowly lessened or increased over a time period of centuries. { 'sek-yə-lər ,ver-ē-ə-bəl }

**secular variation** [ASTRON] A perturbation of the moon's motion caused by variations in the effect of the sun's gravitational attraction on the earth and moon as their relative distances from the sun vary during the synodic month. [GEOPHYS] The changes, measured in hundreds of years, in the magnetic field of the earth. Also known as geomagnetic secular variation. { 'sek-yə-lər ,ver-ē'ā-shən }

**secund** [BOT] Having lateral members arranged on one side only. { 'sē ,kənd }

**secundine dike** [GEOL] A dike which has been intruded into hot country rock. { 'sek-ən ,dīn 'dīk }

**secure** [ORD] To gain possession of a position or terrain feature, with or without force, and to make such disposition as will prevent, as far as possible, its destruction or loss by enemy action. { si'kyūr }

**secure visual communications** [COMMUN] The transmission of an encrypted digital signal consisting of animated visual and audio information; the distance may vary from a few hundred feet to thousands of miles. { si'kyūr 'vīz-ə-wəl kə ,myū-nə'kā-shənz }

**secure voice** [COMMUN] Voice message that is scrambled or coded, therefore not transmitted in the clear. { si'kyūr 'vōis }

**securinine** [PHARM] C<sub>13</sub>H<sub>15</sub>NO<sub>2</sub> A crystalline compound that forms yellow crystals from a methanol solution and melts at 142-143°C; used to make the nitrate compound for cardiac insufficiency. { si'kyūr-ə ,nēn }

**securite explosive** [MATER] A type of plastic explosive with a balanced oxygen content; it is built up on a nonexplosive, hydrophilic gel and contains oxygen-emitting salts, solid high explosive, and water. { si'kyūr ,īk ,splō-siv }

**security** [COMPUT SCI] The existence and enforcement of techniques which restrict access to data, and the conditions under which data may be obtained. [ELEC] The ability of an electric power system to suitably respond to disturbances arising within that system, including both local and widespread disturbances and the loss of major generation and transmission facilities. [ORD] 1. Measures taken by a command to protect itself from espionage, observation, sabotage, annoyance, or surprise. 2. A condition which results from the establishment and maintenance of protective measures which ensure a state of inviolability from hostile acts or influences. 3. Protection of supplies or supply establishments against enemy attack, fire, theft, and sabotage. { si'kyūr-əd-ē }

**security classification** [ORD] A category or grade assigned to defense information or materiel to indicate the degree of danger to national security that would result from its unauthorized disclosure and the standard of protection required to guard against unauthorized disclosure. { si'kyūr-əd-ē ,klas-ə'fə'kā-shən }

**security clearance** [ORD] A clearance given to a person to permit access to classified material, equipment, or information up to and including a given classification, provided the person can establish a need-to-know. { si'kyūr-əd-ē ,klī-rəns }

**security control officer** [ORD] In the United States, an officer, warrant officer, or responsible civilian official appointed in each command or agency to exercise staff supervision over the safeguarding of defense information. { si'kyūr-əd-ē kən'trōl ,ōf-ə'sər }

**security kernel** [COMPUT SCI] A portion of an operating sys-

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