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Fifth Edition

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On the cover: Photomicrograph of crystals of vitamin B₁.
(Dennis Kunkel, University of Hawaii)

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generate another which meets specified requirements for shape, amplitude, and timing. Also known as signal normalization. { 'sig'nəl, stāndərdə'zā'shən }

signal station [COMMUN] A place on shore at which signals are made to ships at sea. { 'sig'nəl, stā'shən }

signal strength [ELECTROMAG] The strength of the signal produced by a radio transmitter at a particular location, usually expressed as microvolts or millivolts per meter of effective receiving antenna height. { 'sig'nəl, strəŋkθ }

signal-strength meter [ELECTR] A meter that is connected to the automatic volume-control circuit of a communication receiver and calibrated in decibels or arbitrary S units to read the strength of a received signal. Also known as S meter; S-unit meter. { 'sig'nəl, strəŋkθ, mēd'ər }

signal-to-interference ratio [ELECTR] The relative magnitude of signal waves and waves which interfere with signal-wave reception. { 'sig'nəl tū, in'tər'firəns, rā'shō }

signal-to-noise improvement factor See noise improvement factor. { 'sig'nəl tə 'nōiz im'prūv'mənt, fak'tər }

signal-to-noise ratio [ELECTR] The ratio of the amplitude of a desired signal at any point to the amplitude of noise signals at that same point; often expressed in decibels; the peak value is usually used for pulse noise, while the root-mean-square (rms) value is used for random noise. Abbreviated S/N; SNR. { 'sig'nəl tə 'nōiz, rā'shō }

signal tower [CIV ENG] A switch tower from which railroad signals are displayed or controlled. { 'sig'nəl, təw'ər }

signal tracer [ELECTR] An instrument used for tracing the progress of a signal through a radio receiver or an audio amplifier to locate a faulty stage. { 'sig'nəl, trās'ər }

signal voltage [ELEC] Effective (root-mean-square) voltage value of a signal. { 'sig'nəl, vōltij }

signal wave [COMMUN] A wave whose characteristics permit some intelligence, message, or effect to be conveyed. Also known as signal. { 'sig'nəl, wāv }

signal-wave envelope [COMMUN] Contour of a signal wave which is composed of a series of wave cycles. { 'sig'nəl, wāv 'en-və,lōp }

signal winding [ELEC] Control winding, of a saturable reactor, to which the independent variable (signal wave) is applied. { 'sig'nəl, wīnd'ɪŋ }

sign-and-magnitude code [COMPUT SCI] The representation of an integer X by $(-1)^{a_0}(2^{n-2}a_1 + 2^{n-3}a_2 + \dots + a_{n-1})$, where a_0 is 0 for X positive, and a_0 is 1 for X negative, and any a_i is either 0 or 1. { 'sīn ən 'magnə'ti'd, kōd }

signature [ELECTR] The characteristic pattern of a target as displayed by detection and classification equipment.

[GRAPHICS] A folded, printed sheet, usually consisting of 16 or 32 pages, that forms a section of a book or a pamphlet; the sheet may have fewer pages, but is always in multiples of four.

[NAV ARCH] The graphic record of the magnetic properties of a vessel automatically traced as the vessel passes over the sensitive element of a recording instrument; more accurately called magnetic signature. [ORD] The identifying characteristics peculiar to each type of target which enable detecting apparatus, such as certain fuses, to sense and differentiate targets. [QUANT MECH] A quantum number α that characterizes a system with the symmetry of a prolate or oblate spheroid and satisfies the equation $r = \exp(-i\pi\alpha)$, where r is the eigenvalue of the system under a rotation through 180° about an axis perpendicular to the symmetry axis. { 'sig'nə'chər }

sign bit [COMPUT SCI] A sign digit consisting of one bit. { 'sīn, 'bit }

sign check indicator [COMPUT SCI] An error checking device, indicating no sign or improper signing of a field used for arithmetic processes; the machine can, upon interrogation, be made to stop or enter into a correction routine. { 'sīn 'chek 'in-də, kād'ər }

sign-control flip-flop [COMPUT SCI] In computers, a flip-flop in the arithmetic unit used for storing the sign of the result of an operation. { 'sīn kən'trōl 'flɪp, flɒp }

sign convention [OPTICS] A convention as to which quantities, such as angles, distances, and radii of curvature, are positive and which are negative in computations involving a lens or a mirror. { 'sīn kən'ven'chən }

sign digit [COMPUT SCI] A digit containing one to four binary

signed decimal [COMPUT SCI] A form representation in which the low-order nibble a sign bit that specifies whether the number is positive or negative. { 'sīnd 'des'məl }

signed field [COMPUT SCI] A field of n bits, the first of which is a sign bit and the remaining $n-1$ bits are data bits. { 'sīnd 'fēld }

signed integer [COMPUT SCI] A whole number that lies anywhere in a domain that extends from a negative to a positive integer, and which therefore carries a sign. { 'sīnd 'mezh'ər }

signed measure [MATH] An extended real-valued measure m defined on a sigma algebra of subsets of a set S . The value of m on the empty set is 0, (2) the countable union of disjoint sets is the sum of the measures of the sets, and (3) m assumes at most one of the values $+\infty$, $-\infty$, or a real number. { 'sīnd 'mezh'ər }

signet-ring cell [HISTOL] A cell with a hydrate-filled vacuole that pushes the nucleus toward one side. { 'sīgnət, rɪŋ 'sel }

sign flag [COMPUT SCI] A bit in a status register of a central processing unit that indicates whether the result of an arithmetic operation is positive or negative.

significance [MATH] The arbitrary rank, relative magnitude assigned to a given probability. { 'sīgnɪfɪ'kəns }

significance arithmetic [COMPUT SCI] A method of estimating the numbers and positions of the digits in a radix approximation that results when the approximation is applied to operands in radix arithmetic. { 'sīgnɪfɪ'kəns ə'riθmə'tik }

significance level See level of significance. { 'sīgnɪfɪ'kəns, 'levəl }

significance probability [STAT] The probability of rejecting a value of a test statistic as significant when the value actually observed is not significant. { 'sīgnɪfɪ'kəns ə'biləd-ē }

significant digit See significant figure. { 'sīgnɪfɪ'kənt }

significant figure [MATH] A prescribed number of digits that determines the amount of rounding off to be used in a calculation based upon the degree of accuracy in the data. { 'sīgnɪfɪ'kənt }

significant wave [OCEANOGR] A wave whose average height is the highest third of the wave height in a group. { 'sīgnɪfɪ'kənt, wāv }

sign of the zodiac [ASTRON] The zodiacal constellations, called signs, in each of which the sun, moon, and planets are found during the month of the year; each sign, 30° in length. { 'sīn əv ðə 'zō'diæk }

sign position [COMPUT SCI] That position in a numeral, in which the sign of the number is represented. { 'sīn pə'zɪʃən }

sign stimulus [PSYCH] A specific external stimulus that elicits certain behavioral sequences that typify a species. { 'sīn, stɪm'yələs }

sign test [STAT] A test which can be used to compare two samples when the experiment is conducted to compare a treatment with a control.

signum [MATH] The real function $\text{sgn}(x)$ defined as $\text{sgn}(x) = 1$ if $x > 0$, $\text{sgn}(x) = -1$ if $x < 0$, and $\text{sgn}(0) = 0$. { 'sīgnəm }

sigua [METEOROL] A straight-blowing wind from the north in the Philippines. { 'sē,wā }

sikussak [OCEANOGR] Very old sea ice that resembles glacier ice because snowfall and siltation retard its formation. { sə'kūsək }

SIL See speech interference level.

silage [AGR] Green or mature fodder that has been cut and stored to produce a succulent feed for livestock. { 'sɪlɪj }

silane [INORG CHEM] $\text{Si}_n\text{H}_{2n+2}$ A class of compounds analogous to alkanes, that is, saturated paraffin hydrocarbons; they can be used as fuels. Also known as silicon hydride. { 'sɪ,læn }

silanol [CHEM] A member of the family of