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TERMS
Fifth Edition**

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

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- an ordinary nucleus. Designated Σ^- hyperonic atom. { 'sig-mə 'mī-nəs 'hī-pə 'rā-nīk 'ad-əm }
- sigma phase** [MET] A brittle, nonmagnetic phase of tetragonal structure occurring in many transition-metal alloys; frequently encountered in high chromium stainless steels. { 'sig-mə ,fāz }
- sigma pile** [NUCLEO] An assembly of moderating material containing a neutron source, used to study the absorption cross sections and other neutron properties of the material. { 'sig-mə ,pīl }
- sigma ring** [MATH] A ring of sets where any countable union of its members is also a member. { 'sig-mə ,rīŋ }
- sigmaspire** [INV ZOO] An S-shaped sponge spicule. { 'sig-mə ,spīr }
- sigma-T** [OCEANOGR] An abbreviated value of the density of a sea-water sample of temperature *T* and salinity *S*: $\sigma T = [\rho(S,T) - 1] \times 10^3$, where $\rho(S,T)$ is the value of the sea-water density in centimeter-gram-second units at standard atmospheric pressure. { 'sig-mə 'tē }
- sigmatron** [NUCLEO] A cyclotron and betatron operating in tandem to produce billion-volt x-rays. { 'sig-mə ,trän }
- sigmatropic shift** [ORG CHEM] A rearrangement reaction that consists of the migration of a sigma bond (that is, the sigma electrons) and the group of atoms that are attached to it from one position in a chain or ring into a new position. { 'sig-mə ,trāp-īk 'shift }
- sigmoid** [BIOL] S-shaped. { 'sig ,mōid }
- sigmoidal dune** [GEOL] A dune with an S-shaped ridge crest formed by the merger of crescentic dunes. { 'sig 'mōid-əl 'di:n }
- sigmoidal fold** [GEOL] A recumbent fold having an axial surface which resembles the Greek letter sigma. { 'sig 'mōid-əl 'fōld }
- sigmoid colon** [ANAT] The S-shaped portion of the colon between the descending colon and the rectum. { 'sig ,mōid 'kō-lən }
- sigmoid distortion** [OPTICS] A distortion present in line-scan imagery, causing straight lines cut obliquely to appear as sigmoid curves. { 'sig ,mōid dī 'stōr-shən }
- sigmoiditis** [MED] Inflammation of the sigmoid flexure of the colon. { 'sig ,mōi 'dī-d-əs }
- sigmoidoscope** [MED] An appliance for the inspection, by artificial light, of the sigmoid colon; it differs from the proctoscope in its greater length and diameter. { 'sig 'mōid-ə ,skōp }
- sign** [COMMUN] In semiotics, an entity that signifies some other thing, and may be interpreted. [MATH] 1. A symbol which indicates whether a quantity is greater than zero or less than zero; the signs are often the marks + and - respectively, but other arbitrarily selected symbols are used, especially in automatic data processing. 2. A unit of plane angle, equal to 30° or $\pi/6$ radians. { 'sīn }
- signage** [GRAPHICS] Environmental graphic communications whose functions include direction, identification, information or orientation, regulation, warning, or restriction. { 'sīn-ij }
- signal** [COMMUN] 1. A visual, aural, or other indication used to convey information. 2. The intelligence, message, or effect to be conveyed over a communication system. 3. See signal wave. { 'sig-nəl }
- signal area** [NAV] That part of an airport used for the display of visual ground signals for the benefit of aircraft in flight. { 'sig-nəl ,er-ə-ə }
- signal bias** [COMMUN] Form of teletypewriter signal distortion brought about by the lengthening or shortening of pulses during transmission; when marking pulses are all lengthened, a marking signal bias results; when marking pulses are all shortened, a spacing signal bias results. { 'sig-nəl ,bī-əs }
- signal carrier** See carrier. { 'sig-nəl ,kar-ē-ər }
- signal center** [COMMUN] A combination of signal communication facilities operated by the U.S. Army in the field and consisting of a communications center, telephone switching central, and appropriate means of signal communications. { 'sig-nəl ,sen-tər }
- signal channel** [COMMUN] A signal path for transmitting electric signals; such paths may be separated by frequency division or time division. { 'sig-nəl ,chan-əl }
- signal conditioning** [COMMUN] Processing the form or mode of a signal so as to make it intelligible to or compatible with a given device, such as a data transmission line, including such manipulation as pulse shaping, pulse clipping, digitizing, and linearizing. { 'sig-nəl kən ,dī-shən-īŋ }
- signal correction** [ENG] In seismic analysis, a correction to eliminate the time differences between reflection times, resulting from changes in the outgoing signal from shot to shot. { 'sig-nəl kə ,rek-shən }
- signal detection theory** [PSYCH] A theory which characterizes not only the acuity of an individual's discrimination but also the psychological factors that bias his judgment. { 'sig-nəl dī 'tek-shən ,thē-ər-tē }
- signal distance** [COMPUT SCI] The number of bits that are not the same in two binary words of equal length. Also known as hamming distance. { 'sig-nəl ,dīs-təns }
- signal distortion generator** [ELECTR] Instrument designed to apply known amounts of distortion on a signal for the purpose of testing and adjusting communications equipment such as teletypewriters. { 'sig-nəl dī 'stōr-shən ,jen-ə ,rād-ər }
- signal effect** [ENG] In seismology, variation in arrival times of reflections recorded with identical filter settings, as a result of changes in the outgoing signal. { 'sig-nəl i ,fekt }
- signal flare** [ENG] A pyrotechnic flare of distinct color and character used as a signal. { 'sig-nəl ,fler }
- signal-flow graph** [SYS ENG] An abbreviated block diagram in which small circles, called nodes, represent variables of the system, and the nodes are connected by lines, called branches, which represent one-way signal multipliers; an arrow on the line indicates direction of signal flow, and a letter near the arrow indicates the multiplication factor. Also known as flow graph. { 'sig-nəl 'flō 'graf }
- signal generator** [ENG] An electronic test instrument that delivers a sinusoidal output at an accurately calibrated frequency that may be anywhere from the audio to the microwave range; the frequency and amplitude are adjustable over a wide range, and the output usually may be amplitude- or frequency-modulated. Also known as test oscillator. { 'sig-nəl ,jen-ə ,rād-ər }
- signal in band** [COMMUN] To send control signals at frequencies within the frequency range of the data signal. { 'sig-nəl in 'band }
- signaling cell** [PHYSIO] A cell whose products induce a specific response in target cells. { 'sig-nəl-īŋ ,sel }
- signaling key** See key. { 'sig-nəl-īŋ ,kē }
- signaling rate** [COMMUN] The rate at which signals are transmitted. { 'sig-nəl-īŋ ,rāt }
- signal intensity** [COMMUN] The electric-field strength of the electromagnetic wave transmitting a signal. { 'sig-nəl in ,ten-səd-ē }
- signal level** [COMMUN] The difference between the level of a signal at a point in a transmission system and the level of an arbitrarily specified reference signal. { 'sig-nəl ,lev-əl }
- signal light** [COMMUN] A light specifically designed for the transmission of code messages by means of visible light rays that are interrupted or deflected by electric or mechanical means. [ENG] A signal, illumination, or any pyrotechnic light used as a sign. { 'sig-nəl ,līt }
- signal molecule** [BIOCHEM] A molecule produced by a signaling cell. { 'sig-nəl ,māl-ə ,kyūl }
- signal normalization** See signal standardization. { 'sig-nəl ,nōr-mə-lə 'zā-shən }
- signal out of band** [COMMUN] To send control signals at frequencies outside the frequency range of the data signal. { 'sig-nəl aūt əv 'band }
- signal processing** [COMMUN] The extraction of information from complex signals in the presence of noise, generally by conversion of the signals into digital form followed by analysis using various algorithms. { 'sig-nəl ,prā ,ses-īŋ }
- signal regeneration** [COMMUN] The restoration of a waveform representing a signal to its original amplitude and shape. Also known as signal reshaping. { 'sig-nəl rē ,jen-ə 'rā-shən }
- signal reporting code** See radio-signal reporting code. { 'sig-nəl rī 'pōrd-īŋ ,kōd }
- signal reshaping** See signal regeneration. { 'sig-nəl rē ,shāp-īŋ }
- signal rocket** [ORD] A rocket that gives off some characteristic color or display which has a meaning according to an established code. { 'sig-nəl ,rāk-ət }
- signal-shaping network** [ELECTR] Network inserted in a telegraph circuit, usually at the receiving end, to improve the waveform of the code signals. { 'sig-nəl 'shāp-īŋ ,net ,wōrk }
- signal speed** [COMMUN] The rate at which code elements are transmitted by a communications system. { 'sig-nəl ,spēd }
- signal standardization** [COMMUN] The use of one signal to