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(4) (thermoelectric material) The quotient of "the square of the absolute Seebeck coefficient α " by "the product of the electric resistivity ρ and the thermal conductivity κ "

$$\alpha^2/\rho\kappa$$

Note: This figure of merit applies to materials for thermoelectric devices whose operation is based on the Seebeck effect or the Peltier effect. See also: thermoelectric device.

(ED) [46], 221-1962w

(5) (of an antenna) The ratio of the gain to the noise temperature of an antenna. Notes: 1. Usually the antenna-receiver system figure of merit is specified. For this case, the figure of merit is the gain of the antenna divided by the system noise temperature referred to the antenna terminals. 2. The system figure of merit at any reference plane in the RF system is the same as that taken at the antenna terminals since both the gain and system noise temperature are referred to the same reference plane.

(AP/ANT) 145-1993

(6) (dynamically tuned gyro) A design constant that relates the rotor polar moment of inertia and the principal moments of inertia of the gimbal(s). A simplified expression for the figure of merit is:

$$FOM = \frac{C}{\sum_1^n (A_n + B_n - C_n)}$$

where

- C = rotor polar moment of inertia
- A_n, B_n = transverse moments of inertia of the n^{th} gimbal
- C_n = polar moment of inertia of the n^{th} gimbal

(AES/GYAC) 528-1994

(7) See also: pumped figure of merit; beta figure of merit; ferrite devices figure of merit; detector figure of merit.

filament (electron tube) A hot cathode, usually in the form of a wire or ribbon, to which heat may be supplied by passing current through it. Note: This is also known as a filamentary cathode. See also: electrode. (ED) 161-1971w, [45]

filamentary transistor A conductivity-modulation transistor with a length much greater than its transverse dimensions. See also: semiconductor; transistor. (ED) 216-1960w

filament current The current supplied to a filament to heat it. See also: heater current; electronic controller. (ED) [45]

filament power supply (electron tube) The means for supplying power to the filament. See also: power pack. (ED) [45]

filament voltage The voltage between the terminals of a filament. See also: electronic controller; electrode voltage. (EEC/PE) [119]

File An instance of the class IEEE1451_File or of a subclass thereof. (IM/ST) 1451.1-1999

file (1) (computers) A collection of related records treated as a unit. Note: Thus in inventory control, one line of an invoice forms an item, a complete invoice forms a record, and the complete set of such records forms a file. (C) [20], [85]

(2) (software) (data management) A set of related records treated as a unit. For example, in stock control, a file could consist of a set of invoice records. See also: logical file; data set; data file. (C) 610.5-1990w, 610.12-1990

(3) (information transfer) One named collection of data. (MM/C) 949-1985w

(4) An object that can be written to, or read from, or both. A file has certain attributes, including access permissions and type. File types include regular file, character special file, block special file, FIFO special file, and directory. Other types of files may be defined by the implementation. (C/PA) 9945-1-1996, 9945-2-1993

(5) An object that can be written to, or read from, or both. A file has certain attributes, including access permissions and type. File types include regular file, character special file, block special file, FIFO special file, socket, character special file for use with XTI calls, and directory. Other types of files may be defined by the implementation. (C) 1003.5-1999

(6) A set of related records usually treated as a named unit of storage. (C/MM) 855-1990

(7) An abstraction of the mechanism for the allocation, deallocation, initialization, and use of memory resources in a device. (IM/ST) 1451.1-1999

file access mode The type of access allowed for a given file and a given user. For example, the file access mode for a given file might be read-only access for one user, and read/write access for another. Synonym: access type. (C) 610.5-1990w

file access permissions A concept of the underlying system, as follows: The standard file access control mechanism uses the file permission bits, as described below. These bits are set at file creation by *open()*, *creat()*, *mkdir()*, and *mkfifo()* and are changed by *chmod()*. These bits are read by *stat()* or *fstat()*. Implementations may provide *additional* or *alternate* file access control mechanisms, or both. An additional access control mechanism shall only further restrict the access permissions defined by the file permission bits. An alternate access control mechanism shall:

- 1) Specify file permission bits for the file owner class, file group class, and file other class of the file, corresponding to the access permissions, to be returned by *stat()* or *fstat()*.
- 2) Be enabled only by explicit user action, on a per-file basis, by the file owner or a user with the appropriate privilege.
- 3) Be disabled for a file after the file permission bits are changed for that file with *chmod()*. The disabling of the alternate mechanism need not disable any additional mechanisms defined by an implementation.

Whenever a process requests file access permission for read, write, or execute/search, if no additional mechanism denies access, access is determined as follows:

- 1) If a process has the appropriate privilege:
 - a) If read, write, or directory search permission is requested, access is granted.
 - b) If execute permission is requested, access is granted if execute permission is granted to at least one user by the file permission bits or by an alternate access control mechanism; otherwise, access is denied.
- 2) Otherwise:
 - a) The file permission bits of a file contain read, write, and execute/search permissions for the file owner class, file group class, and file other class.
 - b) Access is granted if an alternate access control mechanism is not enabled and the requested access permission bit is set for the class (file owner class, file group class, or file other class) to which the process belongs, or if an alternate access control mechanism is enabled and it allows the requested access; otherwise, access is denied.

(C/PA/C/PA) 9945-1-1996, 9945-2-1993

file attribute A property, feature, or characteristic of a file. (C) 610.5-1990w

file attributes The name and other identifiable properties of a file. (C/PA) 1238.1-1994w

file cleanup The removal of superfluous data from a file. Synonym: file tidying. (C) 610.5-1990w

file description See: open file description.

file descriptor (1) A value used to identify an open file for the purpose of file access. File descriptors are unique within a process. (C/PA) 1003.5-1992r

(2) A per-process unique nonnegative integer value used to identify an open file for the purpose of file access. (C/PA) 1003.5-1999, 9945-1-1996, 9945-2-1993

file directory (A) A list of files and their locations within a computer system. See also: catalog. (B) A list of the files and their locations on a particular storage device or volume. (C) 610.5-1990

file gap (1) An area on a storage medium, such as tape, used to indicate the end of a file. (C) [20], [85]

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