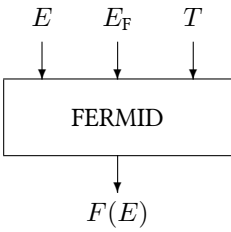


Block FERMID

The FERMID block calculates the Fermi-Dirac probability that a given energy level is occupied or not.



Name	FERMID
Function	se0006
Inputs	3
Outputs	1
Parameters	0
Strings	0
Group	S

Inputs

- 1 Energy E / eV
- 2 Fermi energy E_F / eV
- 3 Temperature T / K

Outputs

- 1 Fermi-Dirac probability that energy level E is occupied

Parameters

None

Strings

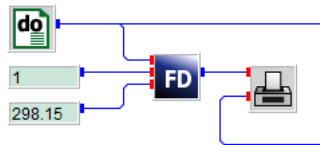
None

Description The Fermi-Dirac distribution is defined by

$$f(E) = \left(1 + \exp \left(\frac{E - E_F}{kT} \right) \right)^{-1}$$

where k is the Boltzmann constant.

fermid.vseit



A **DO** block varies energy from 0.8 to 1.2 eV in steps of 0.01 eV. For a Fermi energy of 1 eV and a temperature of 298.15 K, both set by two **CONST** blocks the calculated Fermi-Dirac distribution is plotted by the **PLOT** block.

