

5.2.11 User Conductance Definitions

A conductance is the reciprocal of resistance. The conductive heat flow between two nodes is equal to the product of the (linear) conductance between the two nodes and their temperature difference: $Q=G*\Delta_T$.

Linear and/or Radiative conductances may be defined in ITAS; two-way (capital L & R) and/or one-way (lower case l & r) conductances are also allowed; most normal applications are based on the two-way conductances. One-way conductances are used in specialized applications, such as fluid flow simulation using PC-ITAS. We recommend the users not to use the one-way conductances unless they are fully aware of their function(s).

Figure 5-78 shows the ITAS Conductance Definition screen.

Ctrl+:Copy		ITAS Conductor Data Entry				ESC:Quit	
Seq	L/RFACTOR	From	To	Cond. Value	K(T) Array	Include(Y/N)	Description
1	L 1	2054	2053	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
2	L 1	2054	2052	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
3	L 1	2054	2050	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
4	L 1	2054	2049	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
5	L 1	2053	2052	0.0041666669	6061		INTERIOR 2-D CONDUCTANCES
6	L 1	2053	2051	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
7	L 1	2053	2049	0.0041666669	6061		INTERIOR 2-D CONDUCTANCES
8	L 1	2052	2051	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
9	L 1	2052	2050	0.0041666669	6061		INTERIOR 2-D CONDUCTANCES
10	L 1	2051	2050	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
11	L 1	2051	2049	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
12	L 1	2050	2049	0.0041666669	6061		INTERIOR 2-D CONDUCTANCES
13	L 1	2048	2047	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
14	L 1	2048	2046	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
15	L 1	2048	2044	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
16	L 1	2048	2043	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES
17	L 1	2047	2046	0.0041666669	6061		INTERIOR 2-D CONDUCTANCES
18	L 1	2047	2045	0.0111111114	6061		INTERIOR 2-D CONDUCTANCES

CTRL-F1 Import ITAS_NC	ALT-F3 AutoMLI	F4 ShowCoupling	S-F8 UnMark Page	UDC Allowed
SHFT-F1 Import Column	Shift-F3 AutoCHT	S-F5 Purge	F8 Mark Page	
F1 Save	F2 Help F3 AutoGen	F5 Edit	F7 Mark/UnMark	F10 Search

Figure 5-78. PC-ITAS/plus Conductance Definition Screen

The conductances defined here pertain to both ITAS- and User-Nodes. In other words, ITAS-Nodes (outer layer of an MLI) may be coupled to User-Nodes (honeycomb plate node underneath the MLI) through Linear or Radiative conductances.