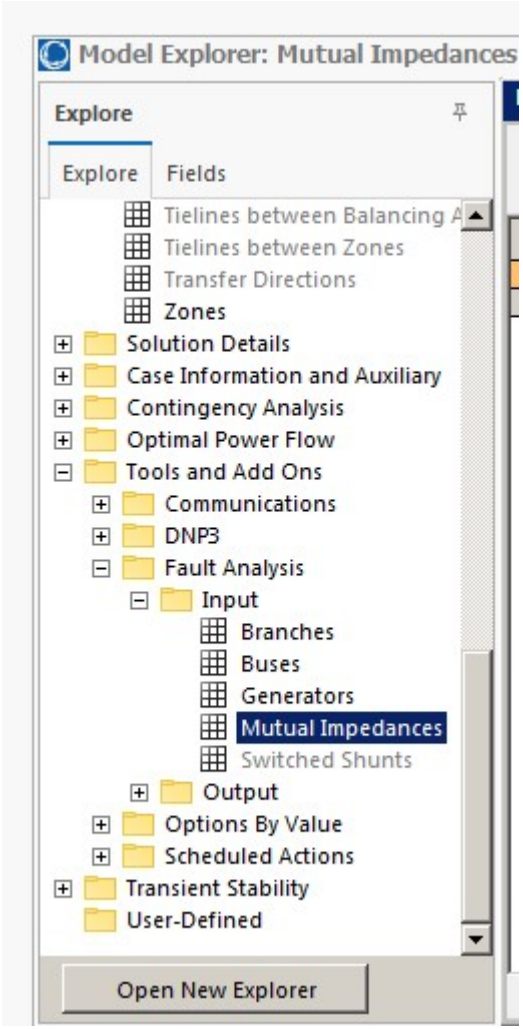
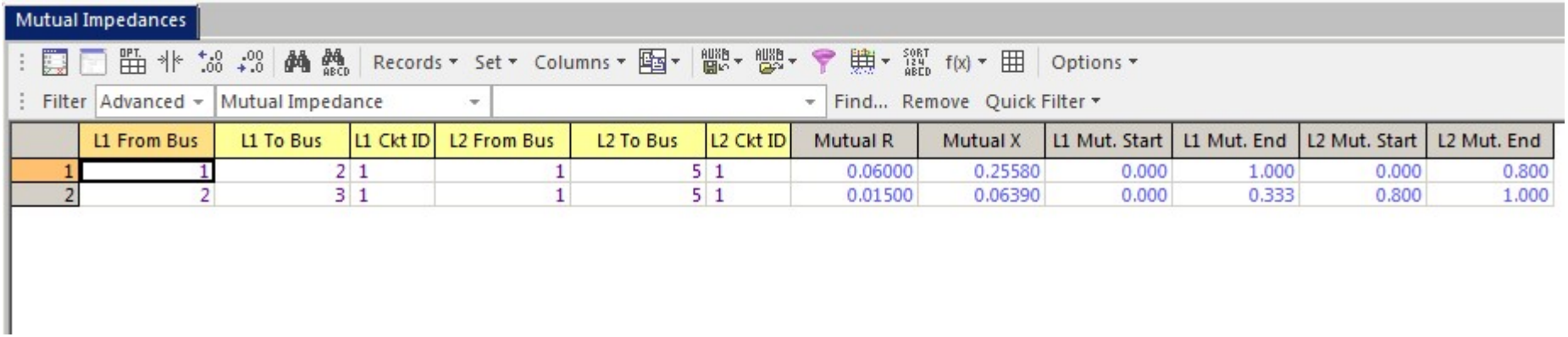
Mutually Coupled Lines In Powerworld

- To get to the Powerworld dialog for entering data for mutually coupled lines, go to: Case Information -- Model Explorer

- Then scroll down to: "Tools and Add ons," then "Fault Analysis," then "Input," and finally "Mutual Impedance"



The resulting screen with the data entered looks like this:



	L1 From Bus	L1 To Bus	L1 Ckt ID	L2 From Bus	L2 To Bus	L2 Ckt ID	Mutual R	Mutual X	L1 Mut. Start	L1 Mut. End	L2 Mut. Start	L2 Mut. End
1	1	2	1	1	5	1	0.06000	0.25580	0.000	1.000	0.000	0.800
2	2	3	1	1	5	1	0.01500	0.06390	0.000	0.333	0.800	1.000

- L1 From Bus, L1 To Bus, and L1 Ckt ID are the "From Bus" number, "To Bus" number, and circuit identifier for the first mutually coupled line
- L2 From Bus, L2 To Bus, and L2 Ckt ID are the "From Bus" number, "To Bus" number, and circuit identifier for the second mutually coupled line
- Mutual R and Mutual X are the per unit values from Z0M for the two lines in question, they were calculated in the other handout from last time.
  - Polarity dot is assumed to be at the From Bus for each line, so designate the lines based on this
- L1 Mutual Start and L1 Mutual End are the starting and end points for line 1, where 1.000 represents 100% of the line length
  - Program uses these for analyzing faults within the line section
- L2 Mutual Start and L2 Mutual End are the starting and end points for line 2, where 1.000 represents 100% of the line length
  - Program uses these for analyzing faults within the line section