

Derived from President's Column - David Berkley, K2MUN, from September, 2014  
Mountain Spark Gaps

The EZNEC tutorial, Part I, took place at the September 24th meeting. It was directed at a quick introduction to some of the basic functions of EZNEC. If you missed it, but are interested in the subject, the built in tutorial is quite good and can be done using the free EZNEC software from W7EL that can be loaded onto any laptop very quickly. If you wish, you can download it yourself, before the next session. Just go to:

<http://www.ez nec.com/demoinfo.htm>. The free version doesn't expire. Modeling is limited to 20 segments which can model many simple antennas.

My tutorial approach was almost exactly the same as that using the help files in EZNEC itself: Introduce the basic operation and then show how the controls work starting with a dipole in free space and building up to a more complex antenna. Here's the outline I worked from:

- Open EZNEC and show the control panel:
- Open Help file; show contents and introductory tutorial
- Open Dipole1.ez
- Change frequency to 14 MHz
- Change Units to Feet
- Open wires info
- Change to -33 ft and 0
- Move up to 30 feet; set ground to Real/MININEC (on fast machines use 'High Accuracy')
- Note source (current source at 50%). Use % rather than absolute placement
- Look at elevation plot (90 degrees -- off broadside of antenna) -- Save plot.
- Look at 3D plot
- Look at SWR
- Move to resonance and then rescale to move to 14.2 MHz.
- Check SWR (help file explains why the result isn't quite right)
- Move to a more complex design -- first split antenna into two pieces
- Introduce split source

- Bend ends (not Inverted V example in Help) 90 degrees at 10 feet
- Redo plot and compare to original
- Call it a night! Suggest moving height above ground, etc.

There's also a lot to be learned by just playing with the program. If you want to see more of what can be done, come along to part II of the tutorial on October 13. Bring your laptop if possible but, if not, we have a few club laptops available to work with. See you then!