

Antennas in Linux

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For this article, I want to introduce a piece of software I've actually used recently in my own work. My new day job involves studying the ionosphere using an instrument called an ionosonde. This device is basically a giant radio transmitter that bounces radio waves off the ionosphere to see its structure and composition. Obviously, an important part of this is knowing the radiation pattern of the various transmitters and receivers.

Several methods exist for modeling the electromagnetic fields around conductors, but here I'm covering one called NEC2 (Numerical Electromagnetics Code). It originally was developed in FORTRAN at the Lawrence Livermore National Laboratory in the 1970s. Since then, it's been re-implemented several times in various languages. Specifically, let's look at `xnec2c`. This package implements NEC2 in C, and it also provides a GTK front end for interacting with the core engine.

[2]

[Linux](#)

Links:

[1] <http://www.tuxmachines.org/taxonomy/term/63>

[2] <https://www.linuxjournal.com/content/antennas-linux>