Antenna Patterns from Ships of Opportunity

Brian Emery, Chad Whelan, Cal Teague, Libe Washburn, Don Barrick

NOAA SBIR phase II
APM Method

Signal source at known location
Create map of 'antenna characteristics' vs brg

Hard to do right
need weather, boat, boat driver, gps,
  electronics that work in salt air
lots of deg of freedom
Hopefully it looks like this
which looks similar to this:
Need screening criteria ... SNR
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in time also ... 4 SNR's
need to quantify differences

use euclidean distance to compare ship with transponder apm

\[ D = \sqrt{(x_2-x_1)^2 + (y_2-y_1)^2} \]
How do we trust the results?

when no transponder pattern to compare with

--> 'Generalization'

need a metric that predicts low error results ...
To do:

Manuscript
5, 25, 42 MHz cases
Version 2 of prototype/more testing
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NOAA SBIR program
Radar heads
Code:

https://bitbucket.org/emery/hfrp_additions/