1146-14-453 **Dan Bates*** (dbates@usna.edu). *RF emitter geolocation via polynomial systems.* Preliminary report.

Numerous applications make use of geolocation techniques for finding radio frequency (RF) emitters. For example, NOAA's SARSAT program receives distress signals from ships, planes, and hikers in distress and employs geolocation methods to find the emergency beacon.

Many geolocation problems can be encoded as polynomial systems. Given error-free measurements, one solution of the polynomial system will be the location of the emitter. In this talk, we consider the management of noisy measurements. Given a set of noisy time or frequency data that may not correspond to any real solutions, how can we clean the data and find reasonable approximations to the location of the emitter? (Received January 28, 2019)