1145-14-1696   **Dan Bates*** (`dbates@usna.edu`). *Geolocation via polynomial systems.* Preliminary report.

Given a radio frequency emitter and multiple receivers, there are various formulations of polynomial systems that can be used to recover the emitter location from received measurements. This goes for planar and scalar scenarios and a variety of types of measurements (time, frequency, etc.). Some of these formulations been available and used in practice for years, others are just beginning to draw attention now.

In this talk, we describe some recent advances in approaching the RF emitter geolocation problem with various techniques from numerical algebraic geometry, a set of methods for solving polynomial systems. (Received September 24, 2018)