
Topic for this week: Adding telemetry to the target

First, expand the definition of telemetry to include any information that we can extract from the signal, other than propagation path. That is a separate, extensive topic that we will explore next. So the telemetry might be as simple as: “the diode has burned out” or extensive coding of environmental and identification information using an embedded processor as the modulator.

Project for this week: Divide tasks among individual and small group contributors.

Homework, due Wednesday February 11: Propose an individual project. We will spend the next two class periods sketching possible projects, groups, etc.

As a class, this week we will be deriving and reviewing the Radar equation as it applies to our class projects, and exploring the practical opportunities and limitations of using the target at the right for remote instrumentation and measurement tasks at different frequency ranges.

As a self check on progress, you should be able to sketch the block diagram of a modulated scatterer radar system, and explain the radar equation on a white board to obtain expected received signal levels given a set of antennas, scattering target, transmitted power, receiver noise floor, and frequency range.

That’s enough for one week.