Autonomous Underwater Vehicles: A basic perception and control approach

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Chapter 1

Setup

1.1 Topology Setup

The sea-floor is represented in a discrete manner. That is, the sea-floor is represented by a number of points that has some coordinate and some reflectance value. These two attributes are stored in two separate tensors as follows:

- *location tensor*: this tensor contains the location of all the scatters that are used to represent the sea-floor
- *reflectance tensor*: this tensor contains the reflectivity of the points representing the sea-floor.

1.2 Signal Simulation

The transmitted signal that we're using for this experiment is a chirp signal.