

## sTEem-at-Work

### Puzzle #58

# Signal Analysis for a 3D Printer Inductive Leveling Sensor

A technician is part of a team that is installing a 3D printer that has an automatic leveling system that uses an inductive sensor to make the level measurements. The team is having trouble getting the printer level and the technician suspects the inductive sensor is not functioning properly. The tech uses a computer based oscilloscope to measure the voltage and current output signals from the sensor while the printer is executing the leveling process. That data is shown below. Plot Legends indicate that the red dotted curve represents the current and the blue curve the voltage signal. The Tech knows that an inductor based sensor always shifts the voltage signal out of phase with the current signal; the voltage leads the current.

Does the technician think that the Inductive Sensor is functioning correctly?

yes

no

