

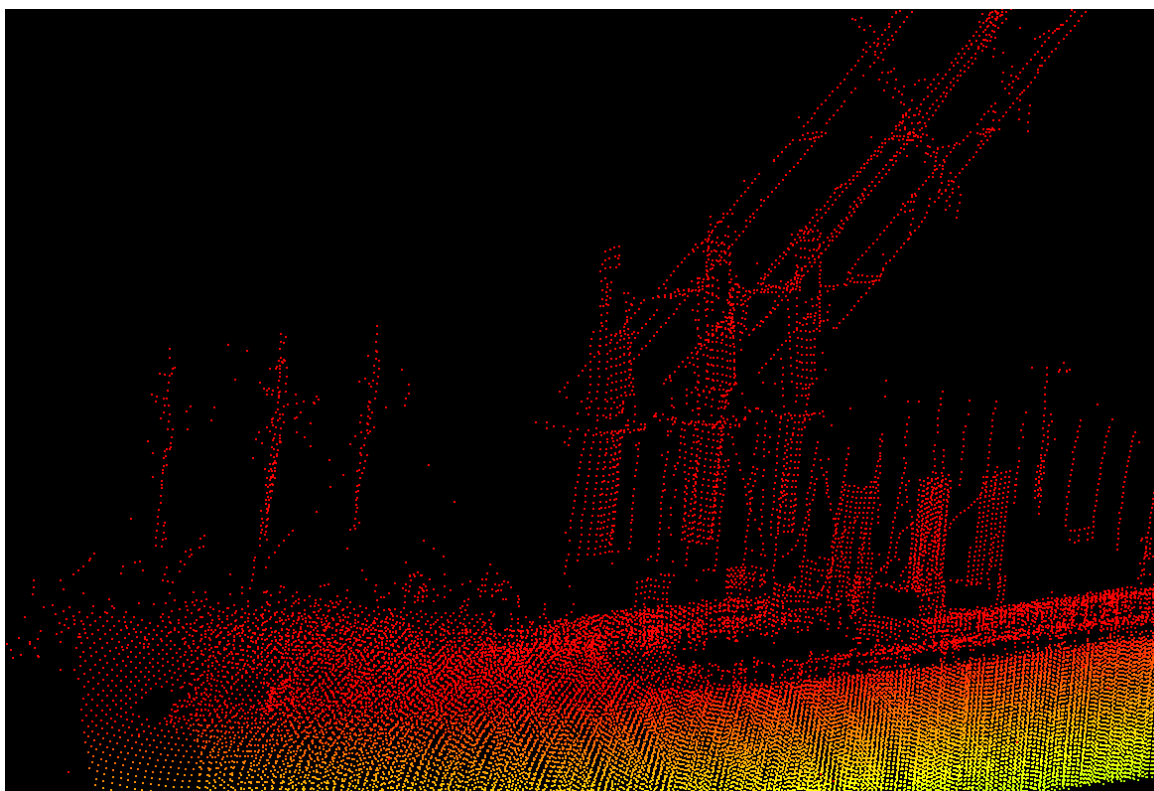


Velodyne VLP-16 Testing in HYPACK and HYSWEEP

By John Lindberg

We have recently performed a few more tweaks to our Velodyne VLP-16 driver in HYSWEEP®. A couple months ago, as discussed in my last newsletter, I had the opportunity to work with The Savannah District Corps of Engineers and Bottom Line Echo Company, demonstrating the VLP-16 while also beta testing our driver update. Overall the data looked pretty nice, but also produced some “ghost” soundings as shown here:

FIGURE 1. *Ghost Images Produced by Our Earlier Velodyne Driver*



We were able to filter out some of the incorrect imaging, but felt the data collection warranted a little more investigation.

Once I arrived back in the office, we set up the laser statically and compared collected points of objects with actual measured distances. We found that some of the channel angles needed to be tweaked. When we felt that all was good, I hopped in the car and drove down to Caven Point to visit the New York Corps of Engineers. They had their own Velodyne VLP-16 that was set up on an ATV, along with a Coda Octopus F180 inertial system.

FIGURE 2. New York Corps of Engineers' Velodyne System



They mounted the laser at a 45 degree angle so they could get more definition on vertical objects like light posts. They also mounted everything on the same platform, so they could transfer the entire setup to any boat or vehicle without having to recalibrate every time the setup is moved.

We spent the day collecting data at Liberty Park in Jersey City, NJ. Here is an image of the train terminal located in the park, colored with intensity values.

FIGURE 3. Jersey City Train Terminal

