

06/17/24  
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out

# Integrating the New BNO and GPS Code

55



The robot was about a meter off of these waypoints. Mostly in the grass.

More testing would help. Sometimes we get 0 in the data.

```
130 if (millis() - pollingStartTime > 1000)
131 {
132   myGPSData = readNavPVT();
133   pollingStartTime = millis();
134
135   // Set the "current" position to point 1 in the GPS pair.
136   myGPSPair.lat1_L = myGPSData.lat;
137   myGPSPair.lon1_L = myGPSData.lon;
138
139   // Get the information we need to control the robot
140   distanceBetween = myHeadingControl.GetDistanceBetween(myGPSPair);
141   targetHeading = myHeadingControl.GetTargetHeading(myGPSPair);
142   currentHeading = getHeading2() - averageGPSError;
143   currentHeading = fixHeading(currentHeading);
144   headingError = myHeadingControl.GetHeadingError(currentHeading, targetHeading);
145   gpsError = currentHeading - (myGPSData.heading / 100000.0); // could flip
146 }
```

→ GPS page 47 + 53

→ BNO page 36 + 37

Comparing Current, Target, and GPS headings from  
06/17/2024

