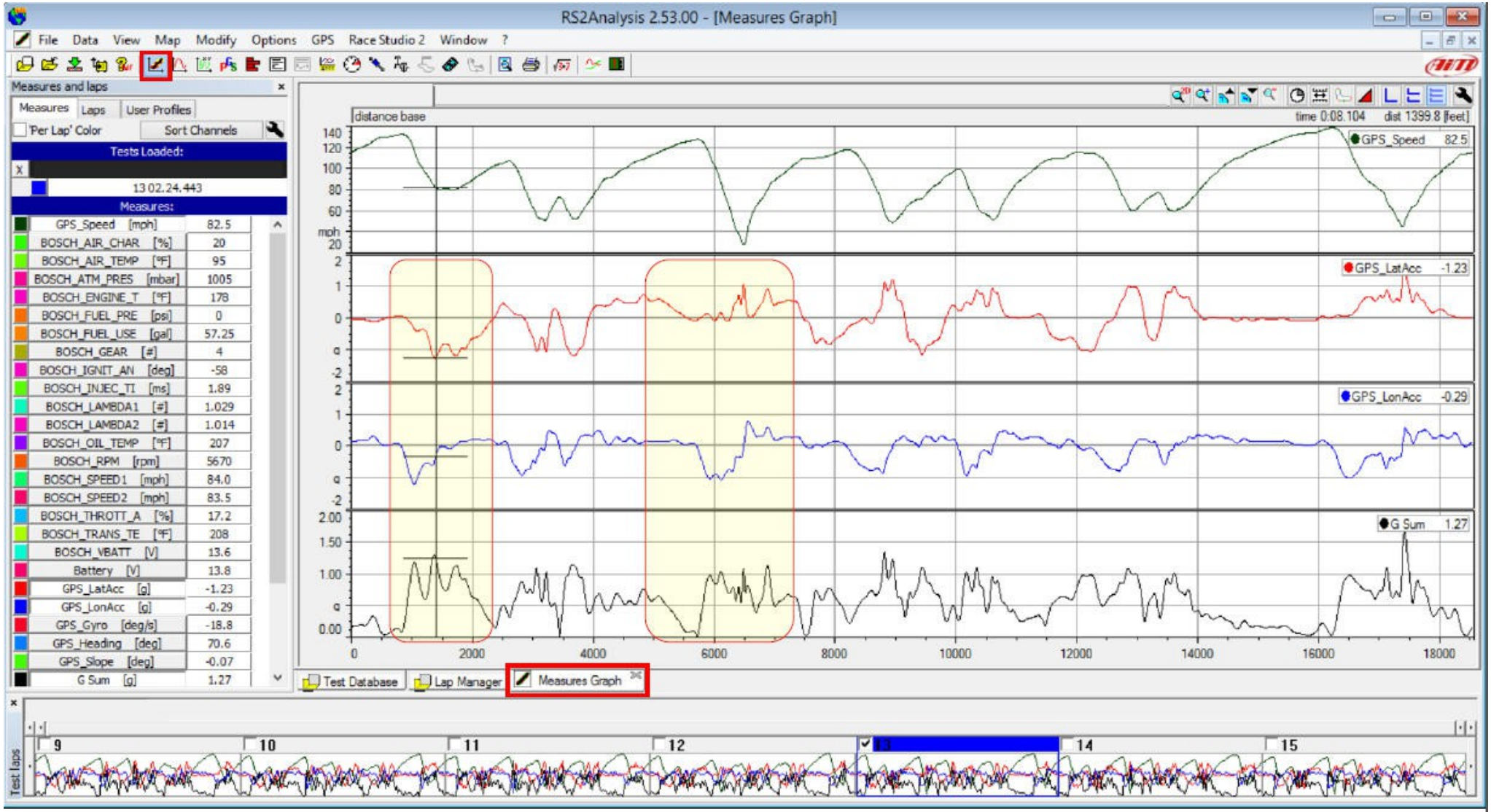
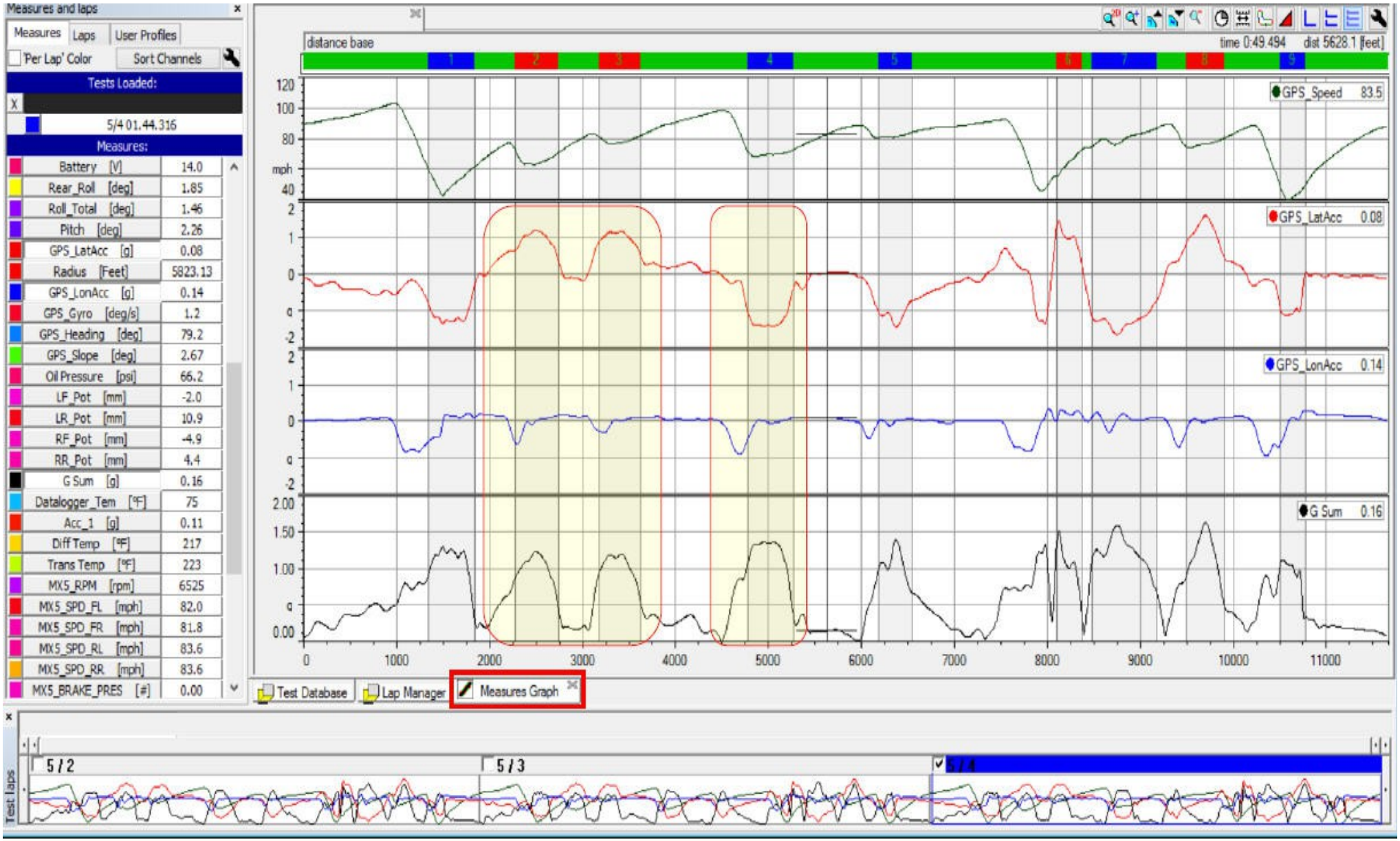
Next examples show what you can do without creating integration in math channels. 1st example is a bad driver and then a good driver by looking at the Gmag math channel. One takes Lateral and Long G and creates a total acceleration channel using Gmag=sqrt(Glong^2+Glat^2). Goal would be see a Gmag curve shape that is smoother and not a sawtooth waveform. The image below is not smooth and that indicates performance loose, tires heating, and chassis will be unstable.



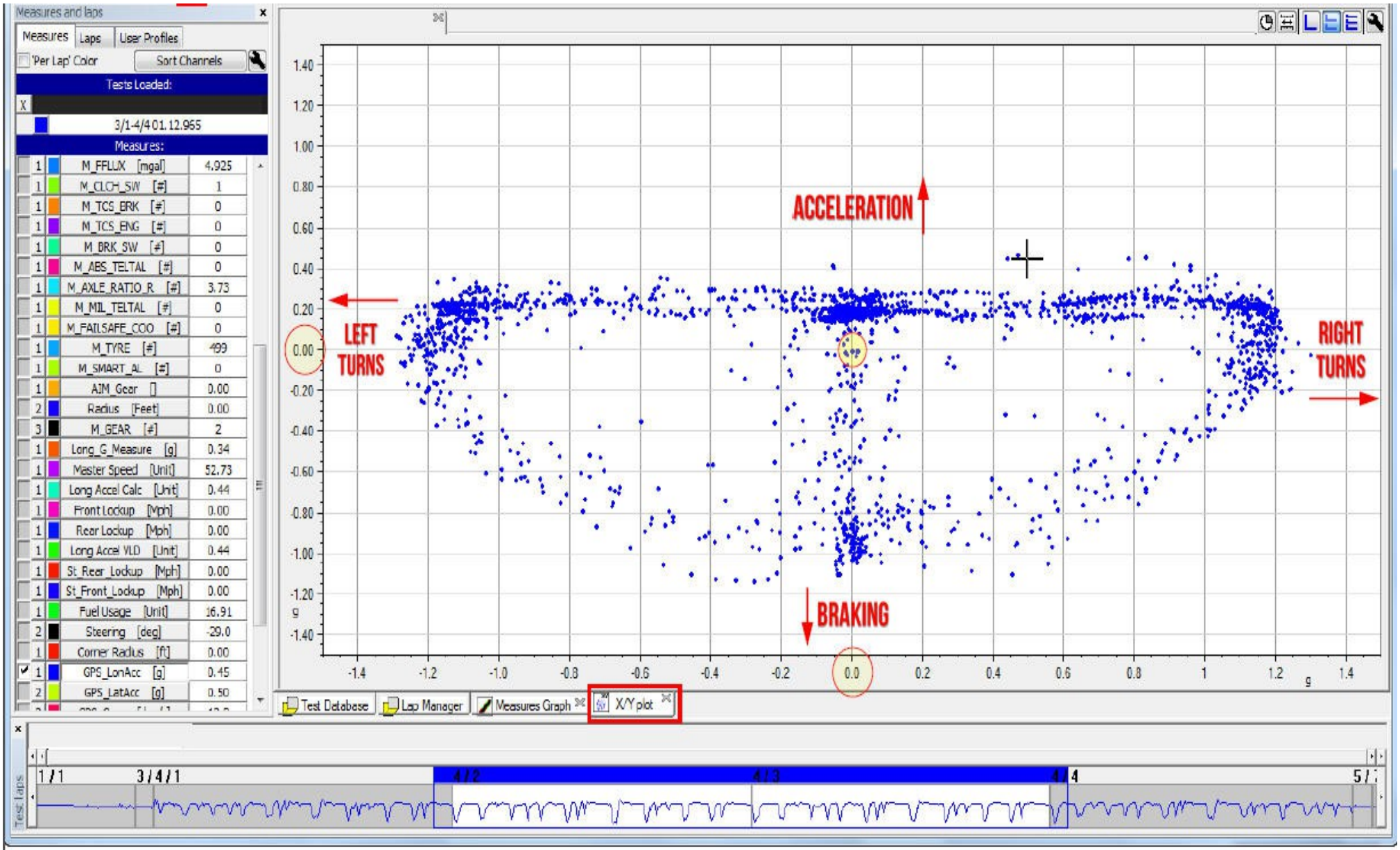
G-SUM ANOTHER FAIRLY SIMPLE MATH CHANNEL IS THE '**G SUM**' CHANNEL. THIS IS VALUABLE TO SEE IF THE DRIVER IS DRIVING THE CAR AT OR NEAR THE LIMIT ESPECIALLY WHEN TRANSITIONING BETWEEN BRAKING AND LATERAL ACCELERATION. THIS EXAMPLE SHOWS A VERY POOR EXAMPLE OF G-SUM DATA, THE SMOOTHER AND NEARER THE LIMIT THE BETTER. THE HIGHLIGHTED AREAS SHOW SECTIONS THAT EXTRA POOR. THE G SUM MATH CHANNEL IS: sqrt((GPS_LatAcc^2)+(GPS_LonAcc^2))

Much better driver looks like this:



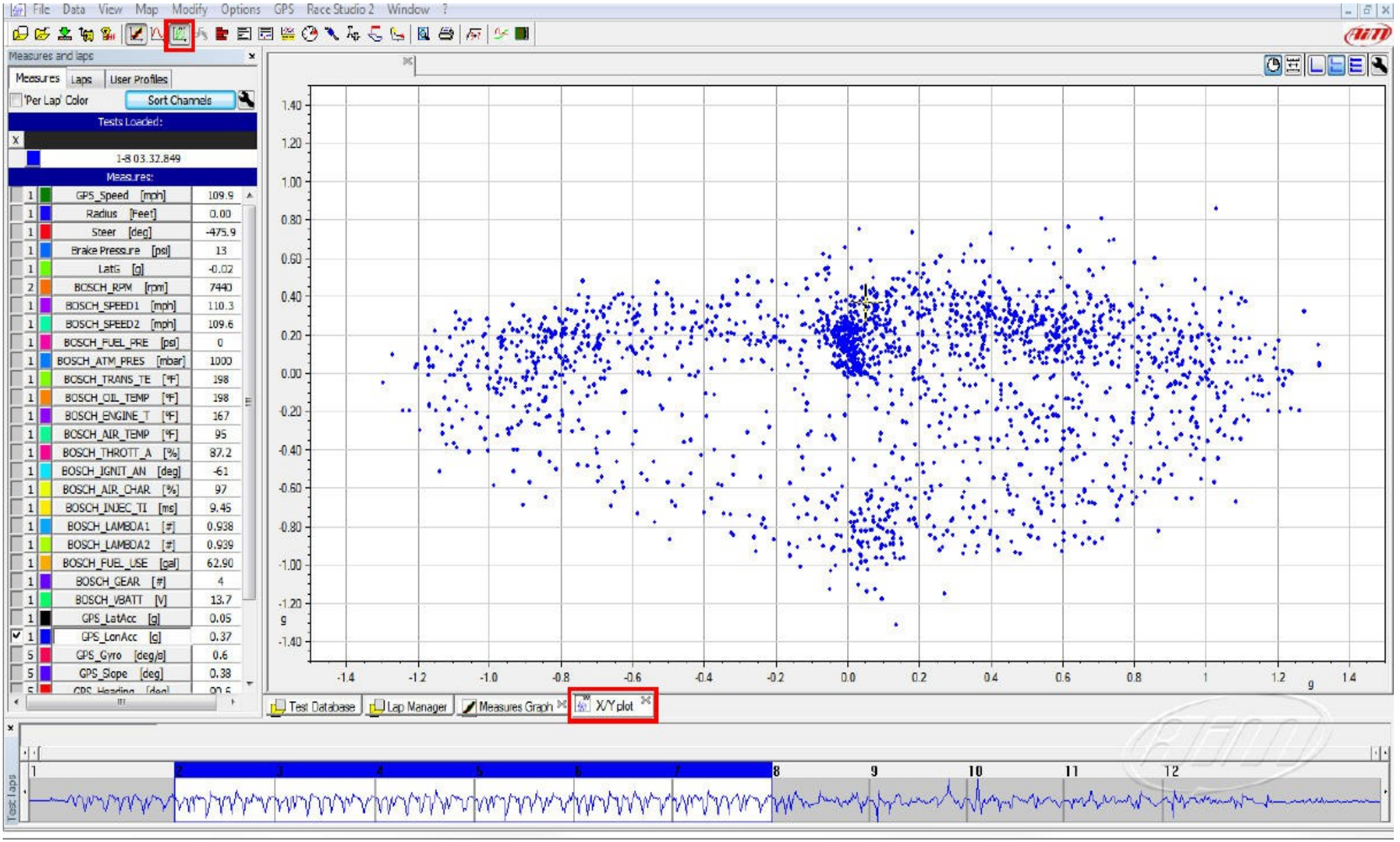
G-SUM ANOTHER FAIRLY SIMPLE MATH CHANNEL IS THE '**G SUM**' CHANNEL. THIS IS VALUABLE TO SEE IF THE DRIVER IS DRIVING THE CAR AT OR NEAR THE LIMIT ESPECIALLY WHEN TRANSITIONING BETWEEN BRAKING AND LATERAL ACCELERATION. THIS EXAMPLE SHOWS A BETTER EXAMPLE OF G-SUM DATA, THE SMOOTHER AND NEARER THE LIMIT THE BETTER. THE HIGHLIGHTED AREAS SHOW SECTIONS THAT ARE GOOD. THE G SUM MATH CHANNEL IS: sqrt((GPS_LatAcc^2)+(GPS_LonAcc^2))

Same G force components but this is a G-G diagram. 1st a good one, whale's tail look. You dont want spots on the interior of the tail fins. Easy to do in AIM and MoTeC.



X/Y GRAPH OR G/G DIAGRAM HERE WE HAVE LABELED THE DIRECTIONS OF FORCE AND THE "ZERO" POINT

Now for a poor driver (6 laps)



X/Y GRAPH OR G/G DIAGRAM HERE WE HAVE THE SAME DRIVER THAT WE LOOKED AT THE G-SUM DATA EARLIER. THIS DRIVER WAS NOT EFFICIENT AT FULLY USING THE VEHICLES PERFORMANCE ENVELOPE.