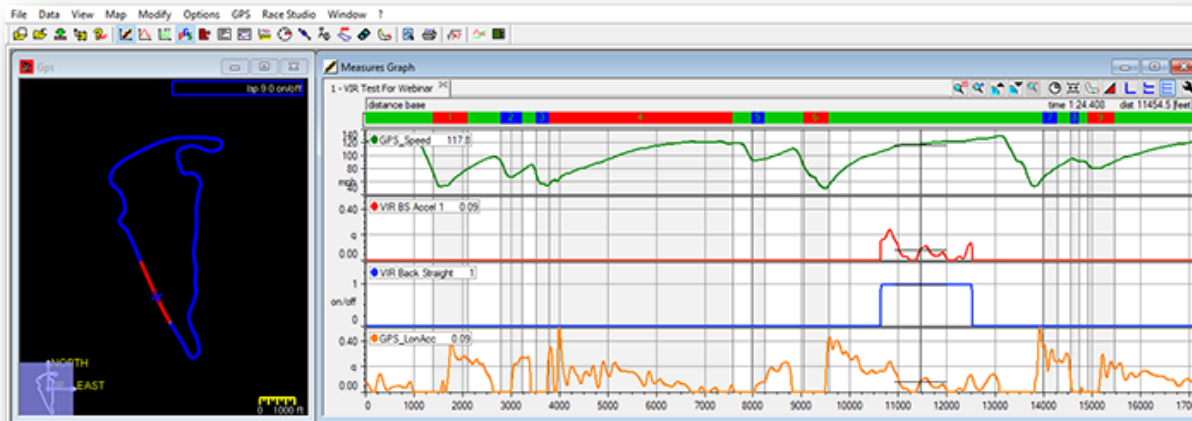




Co-Host:
Ray Phillips

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Bringing Data Support and Training to You

The Power of 'IF'
and Other Math Functions in Race Studio

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Ray Phillips

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Co-Host: Ray Phillips

- Owner of Precision Driving Analytics
- Involved in Motorsports for 25 years, as a Driver for 17 Years
- Data Engineer for 2019 Ferrari Challenge Championship Team



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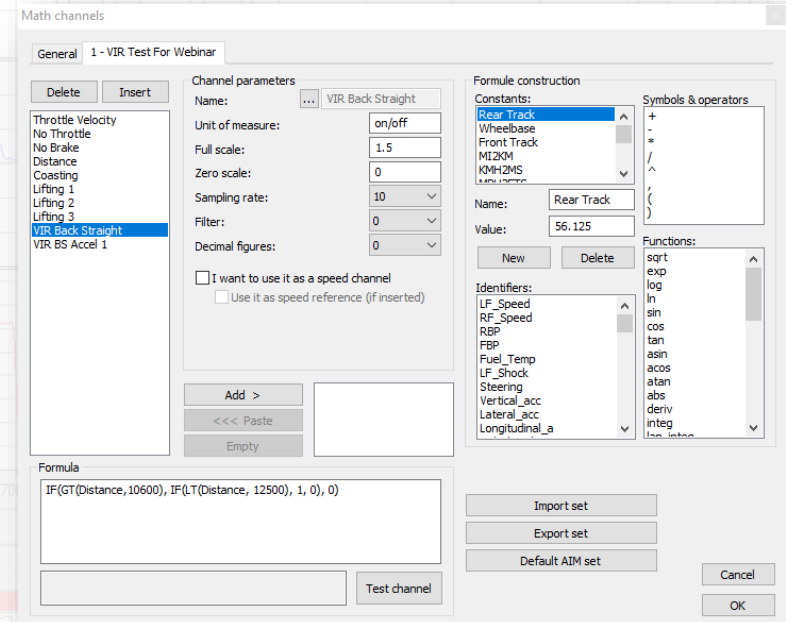
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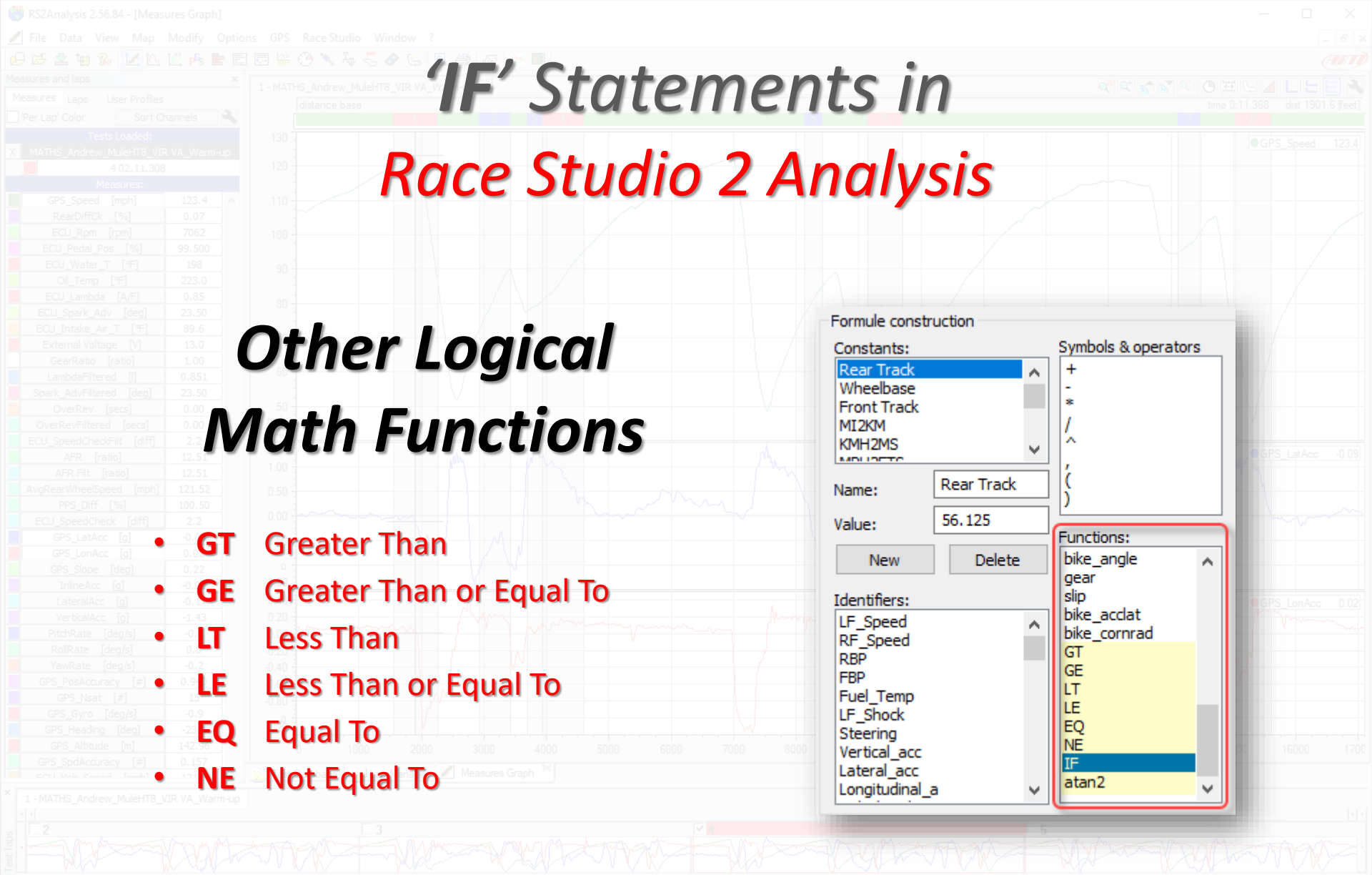
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'IF' Statements in Race Studio 2 Analysis

Why is the IF Statement so Powerful?

- The IF statement/function gives you the ability to compartmentalize your data into smaller pieces
- This in turn gives you the ability to work with only those smaller pieces of data
- This allows you to quickly identify situations or issues that are of interest to you





'IF' Statements in Race Studio 2 Analysis

Other Logical Math Functions

- **GT** Greater Than
- **GE** Greater Than or Equal To
- **LT** Less Than
- **LE** Less Than or Equal To
- **EQ** Equal To
- **NE** Not Equal To

The Power of 'IF' Statements

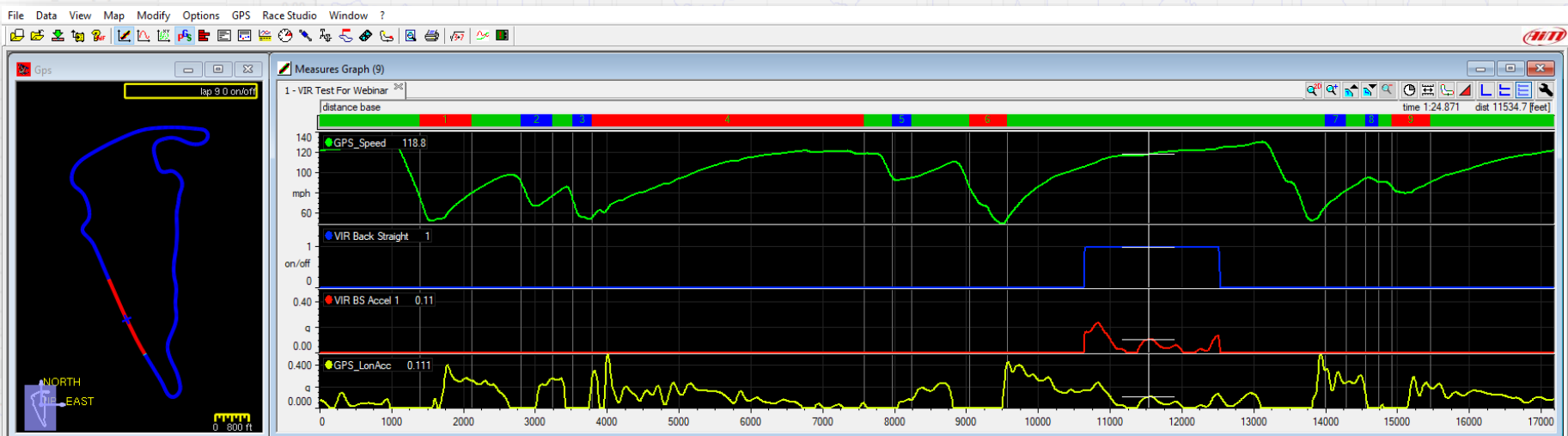
Other Logical Math Functions

'IF' Statements in Race Studio 2 Analysis

IF(Logical Test, Value IF True, Value IF False)

Algebra: $IF(x > y, a, b)$

AIM Sports: $IF(GT(x,y), a, b)$



'IF' Statements in Race Studio 2 Analysis

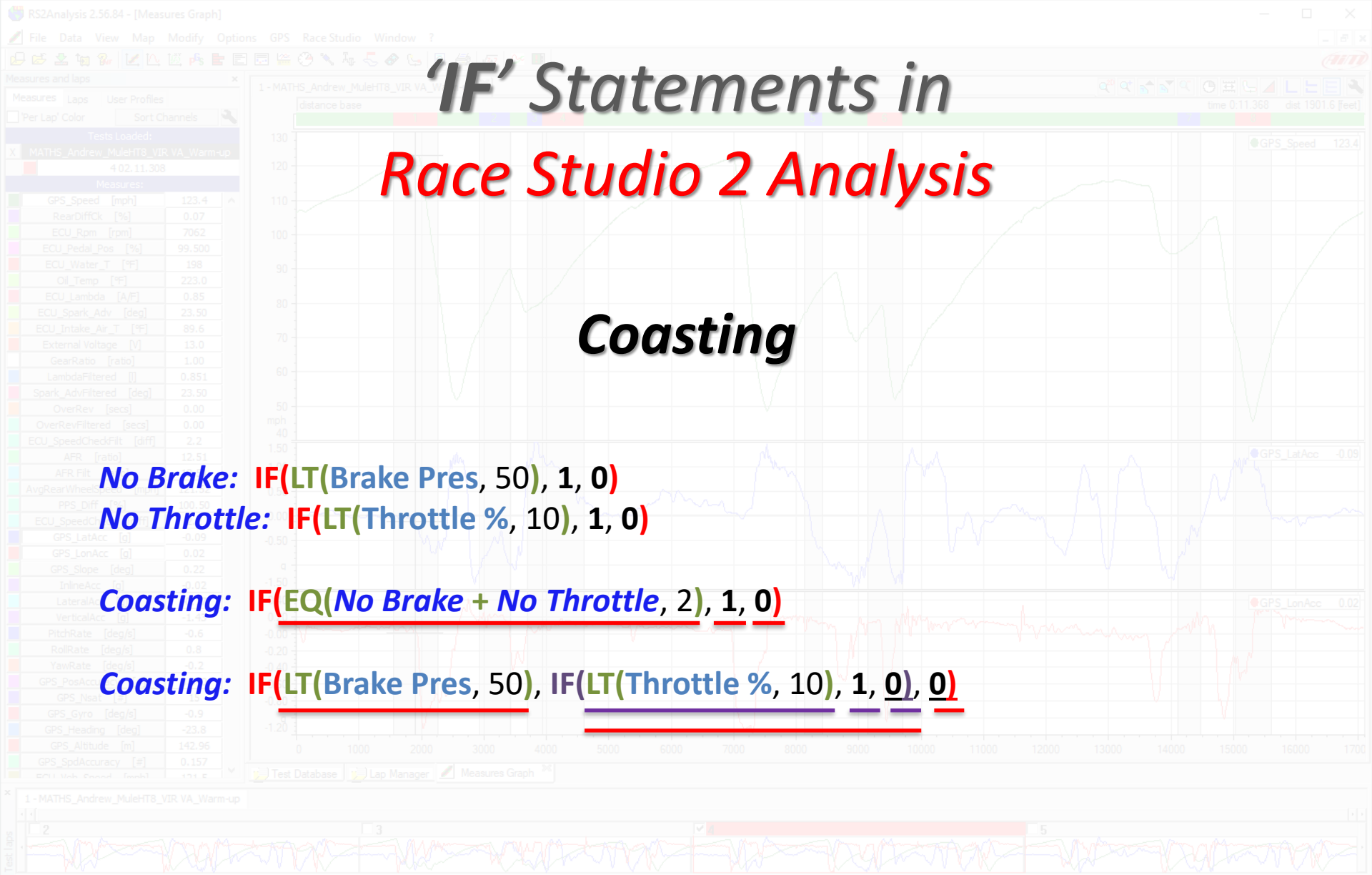
Coasting

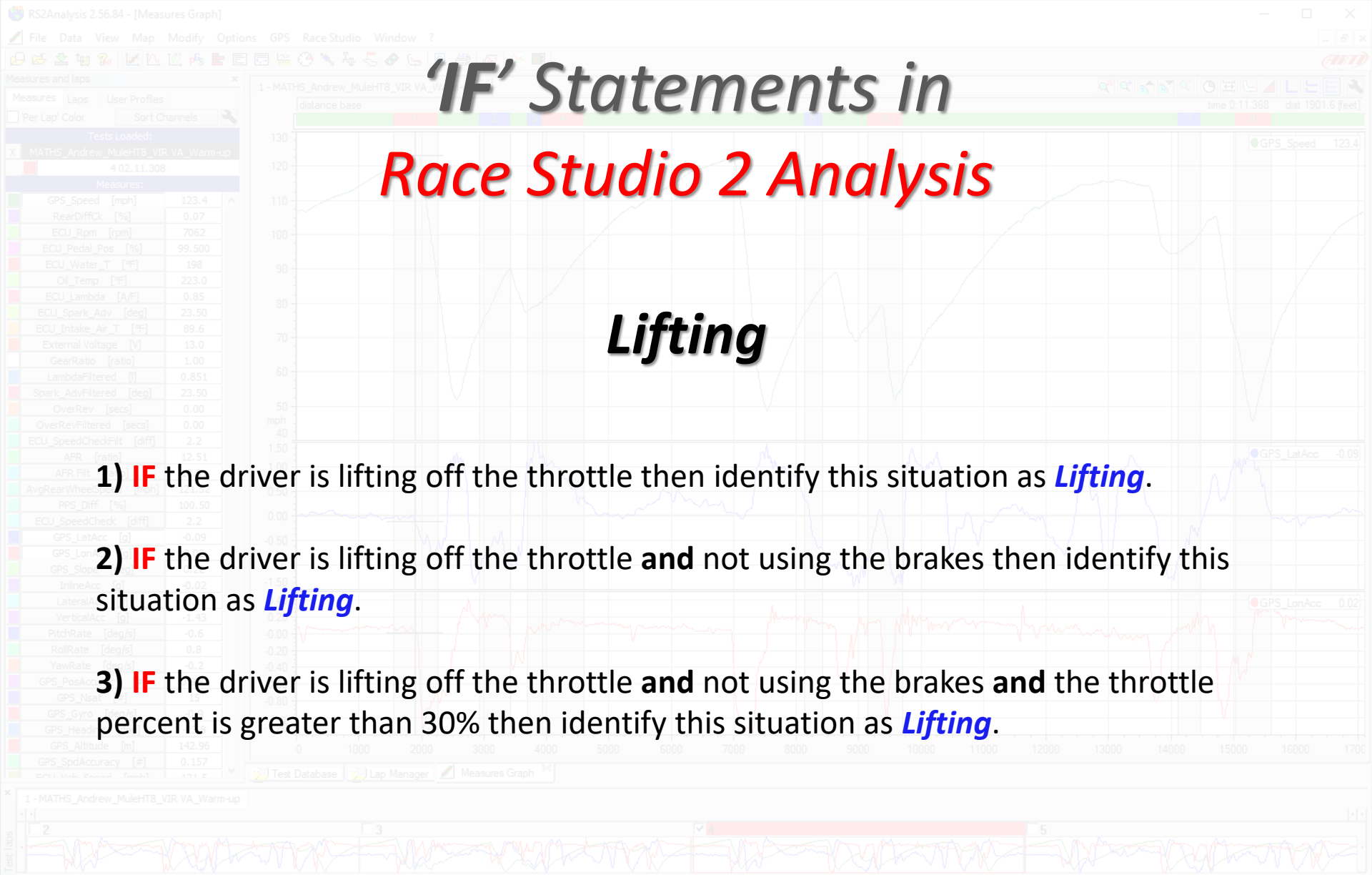
IF the driver is not using the brake or the throttle then identify this situation as **Coasting**.

No Brake: **IF** Brake PSI is **Less Than** 50 psi then return a "1" otherwise return a "0"

No Throttle: **IF** Throttle is **Less Than** 10% then return a "1" otherwise return a "0"

Coasting: **IF No Brake Plus No Throttle** is **Equal To** "2" then return a "1" otherwise return a "0"

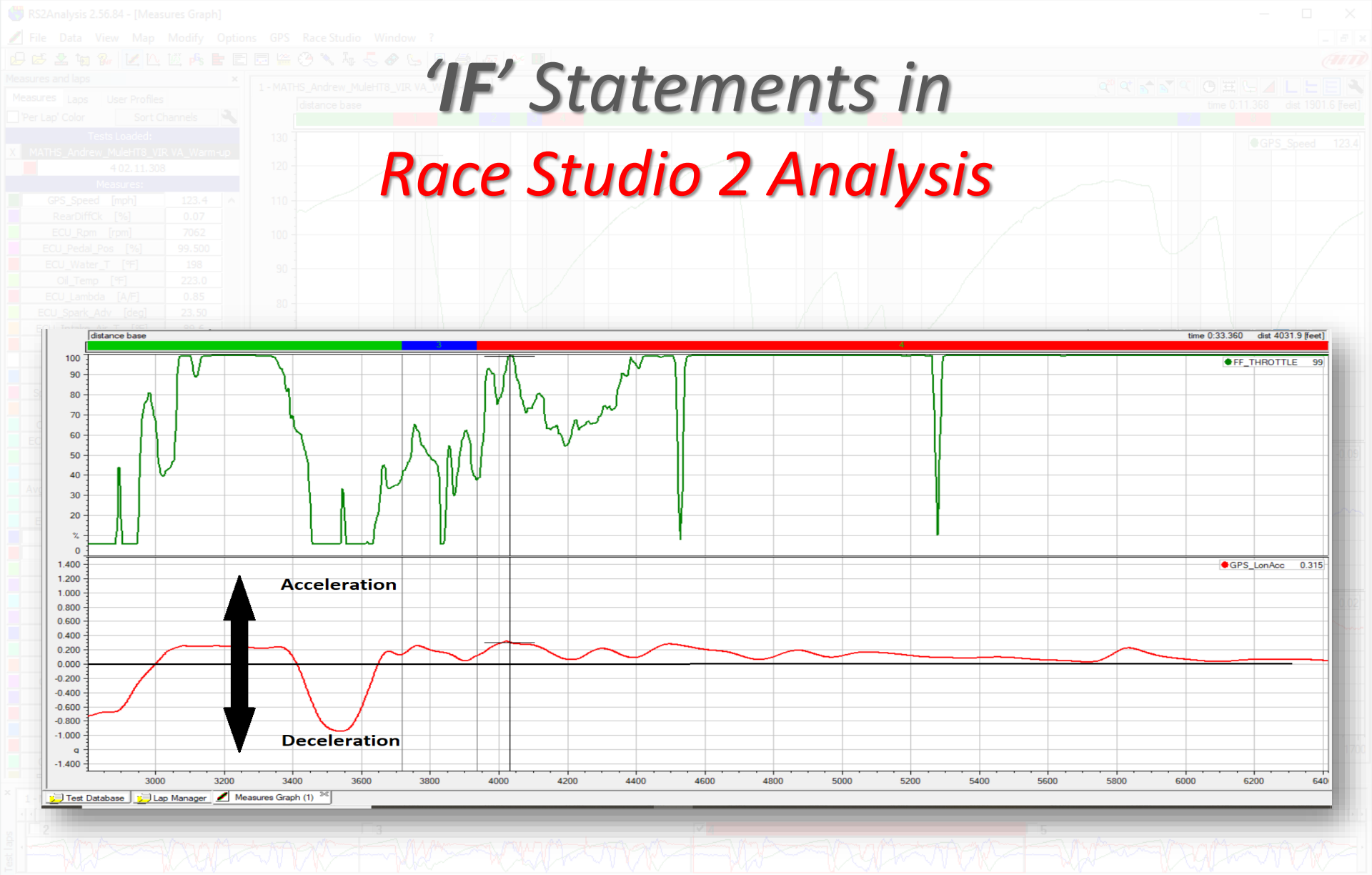


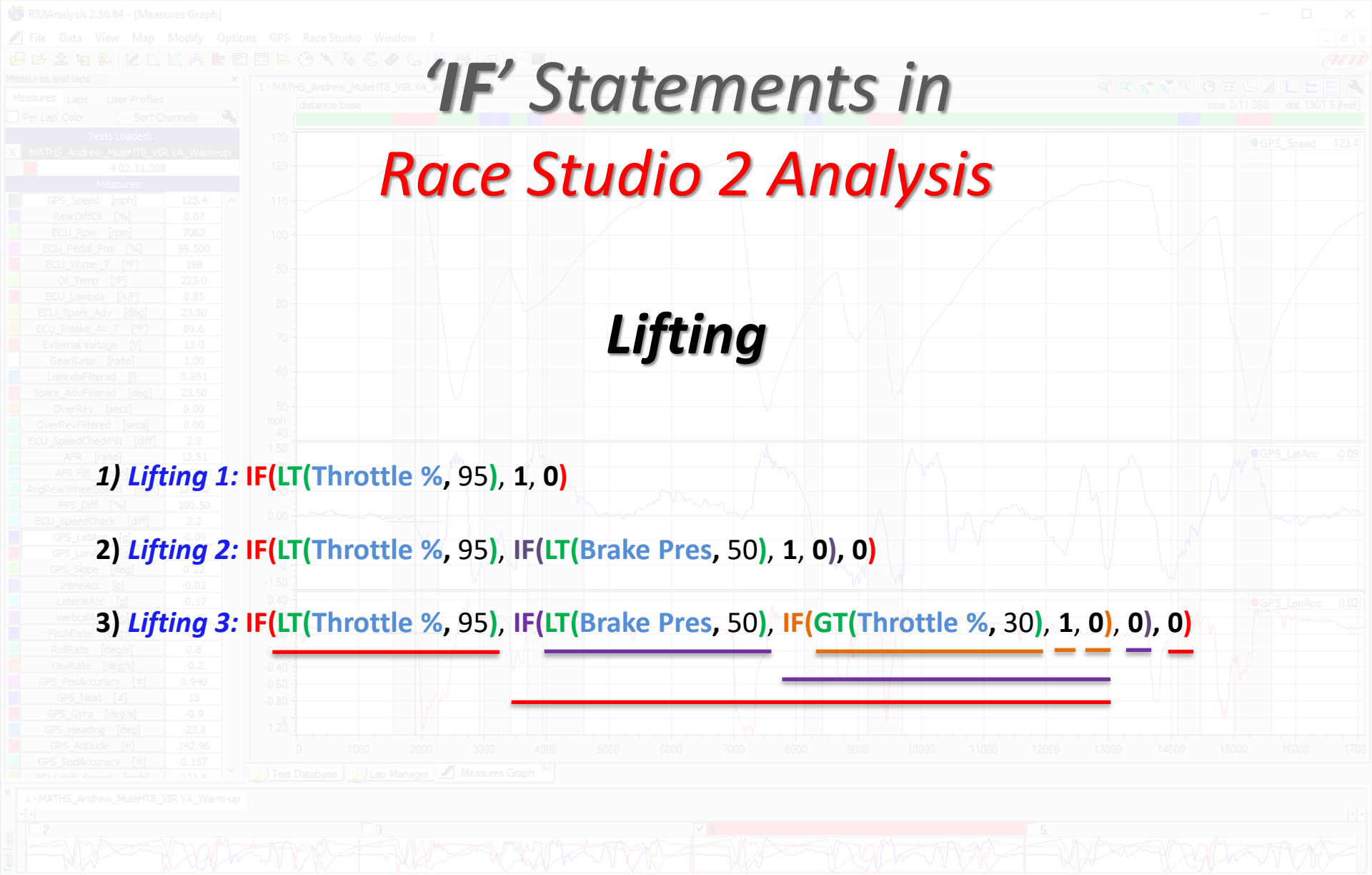


'IF' Statements in Race Studio 2 Analysis

Lifting

- 1) **IF** the driver is lifting off the throttle then identify this situation as **Lifting**.
- 2) **IF** the driver is lifting off the throttle **and** not using the brakes then identify this situation as **Lifting**.
- 3) **IF** the driver is lifting off the throttle **and** not using the brakes **and** the throttle percent is greater than 30% then identify this situation as **Lifting**.

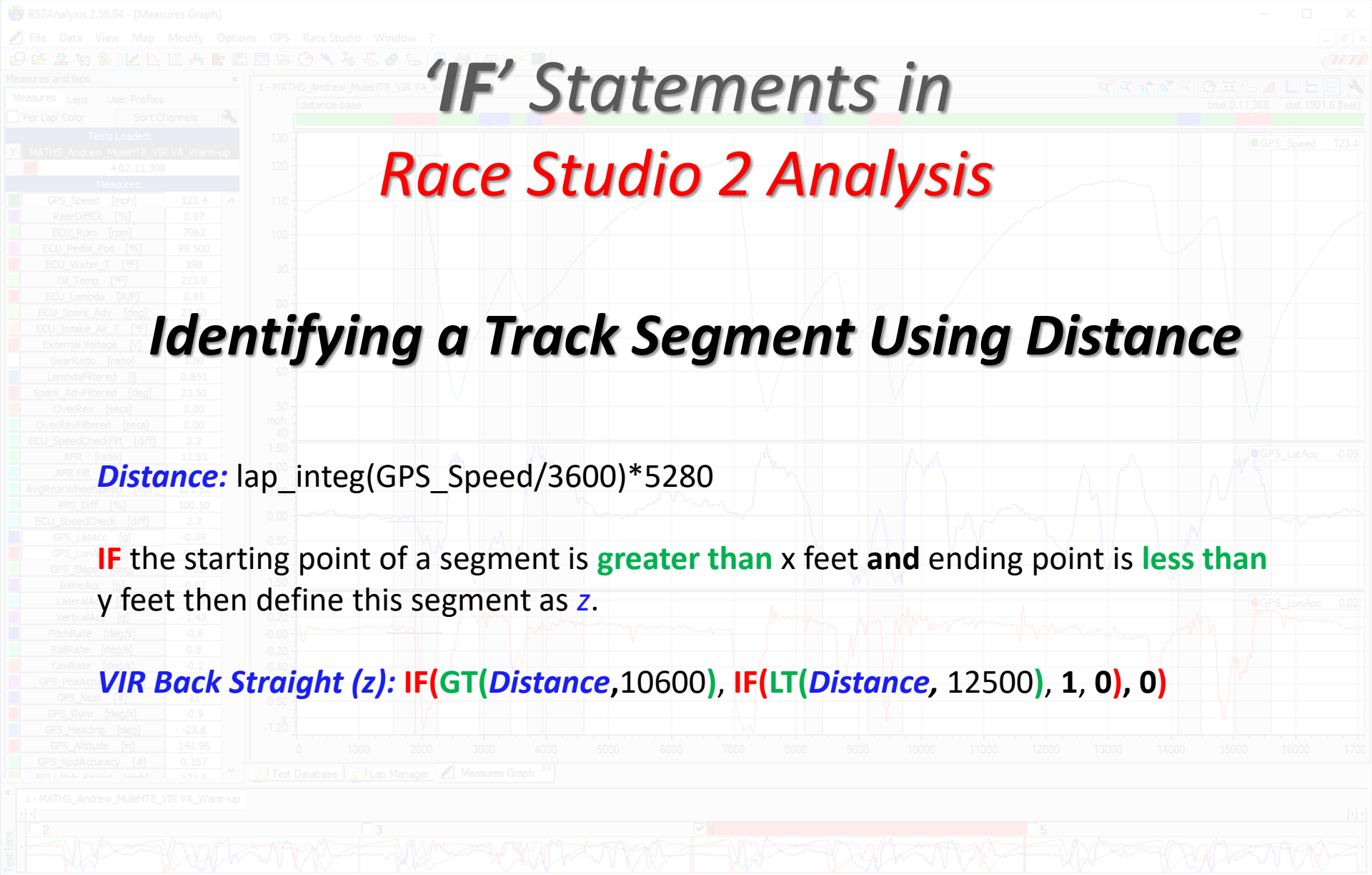




'IF' Statements in Race Studio 2 Analysis

Lifting

- 1) **Lifting 1:** IF(LT(Throttle %, 95), 1, 0)
- 2) **Lifting 2:** IF(LT(Throttle %, 95), IF(LT(Brake Pres, 50), 1, 0), 0)
- 3) **Lifting 3:** IF(LT(Throttle %, 95), IF(LT(Brake Pres, 50), IF(GT(Throttle %, 30), 1, 0), 0), 0)



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- Race Studio 3 Basic Configuration - Part 2
- **I Have Downloaded my Data, Now What - Part 1*
- **I Have Downloaded my Data, Now What - Part 2*
- GPS Lap Insert
- Data Views
- Measure Units
- Sort Channels
- Test Properties
- Per Lap Color
- Export Tests
- Channel Reports
- Setting Time
- Track Mapping
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Additional Materials

LearnFast™ E-Training Video



RS2Analysis 2.56.84 - [Measures Graph]

File Data View Map Modify Options GPS RaceStudio Window ?

Measures and Laps

Measures Laps User Profiles

Per Lap Color Sort Channels

Tests Loaded:

MATHS_Andrew_MuleHT8_VIR_VA_Warm-up

130

4 02:11.3

Measures:

GPS_Speed [km/h]		
RearDiffCk [rpm]	7062	100
ECU_Rpm [rpm]	99.500	
ECU_Pedal_Pos [%]		
ECU_Water_T [°F]		
Oil_Temp [°F]	0.85	
ECU_Lambda [A/F]		
ECU_Spark_Adv [deg]		
ECU_Intake_Air_T [°F]		
External_Voltage [V]	13.0	
GearRatio [ratio]	1.00	
LambdaFiltered []	0.851	60
Spark_AdvFiltered [deg]	23.50	

1 - MATHS_Andrew_MuleHT8_VIR_VA_Warm-up

distance base

time 0:11.368 dist 1301.6 feet

123.4

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Next Webinar

Tuesday August 18th, 2020

10:00am Pac / 1:00pm East

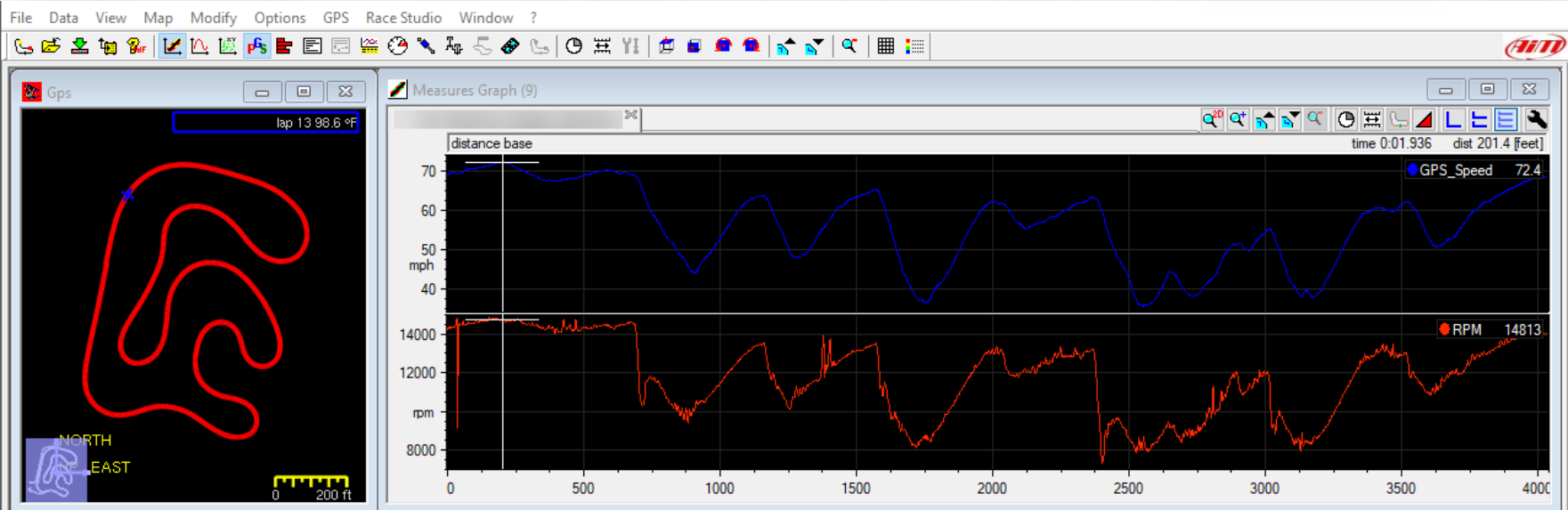


POINTKARTING

Co-Host
Eric Gunderson



Advanced Karting Data Analysis in Race Studio 2



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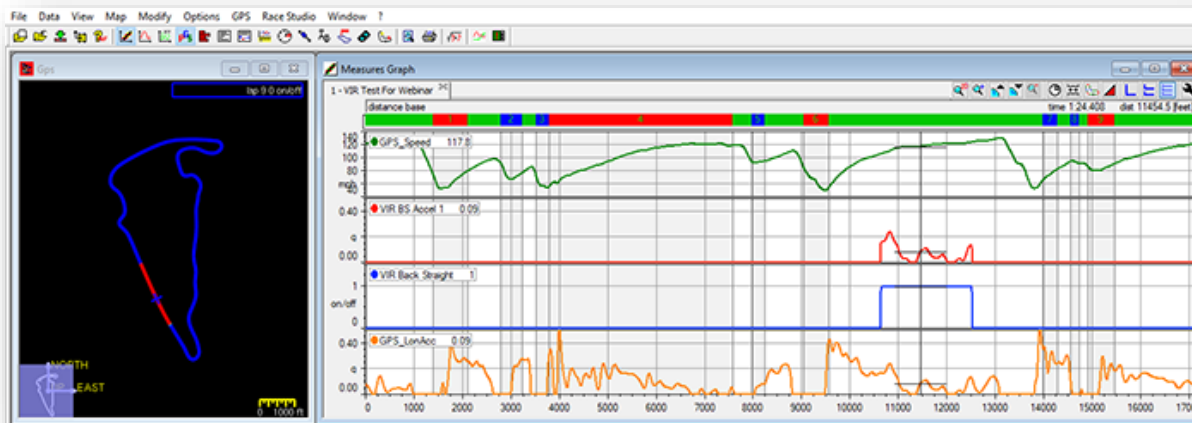


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Next Webinar Topic

Advanced Karting Data Analysis





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Precision Driving Analytics

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