

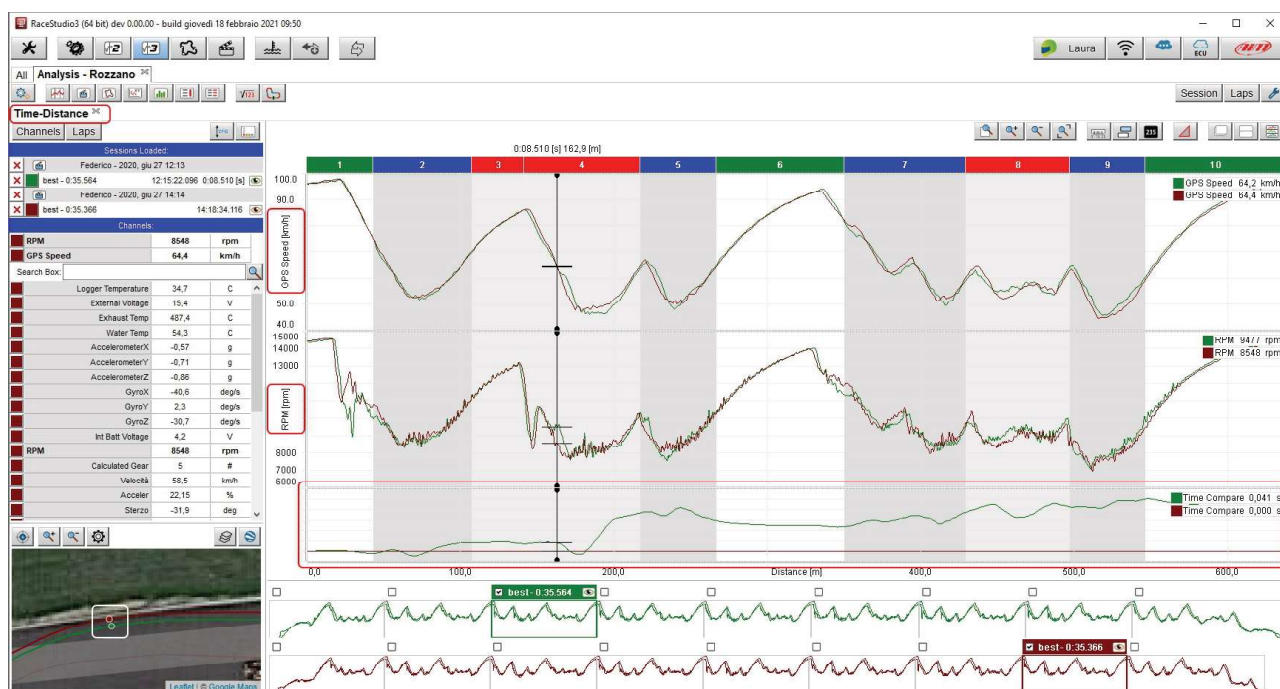
5 – Time-Distance layout



Pressing the icon shown here above on the top left keyboard of the view you enter “Time Distance” layout. It shows

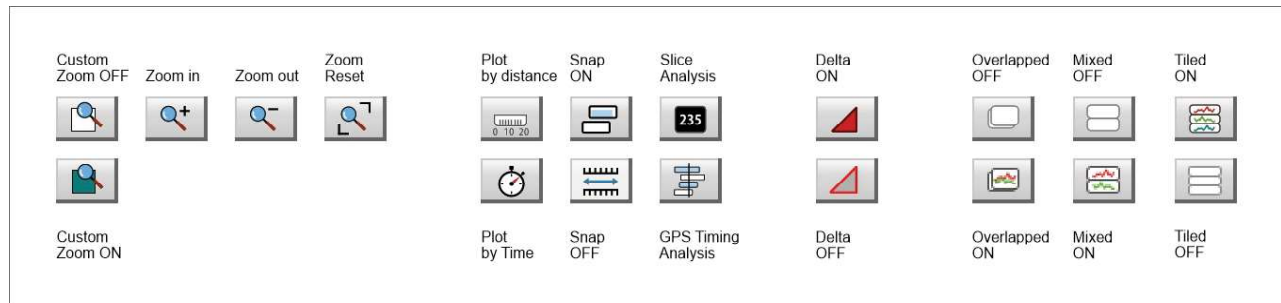
- channels table (see paragraph 4.1) on the left of the view
- track map (see paragraph 4.2) bottom left of the view
- time-distance graph central, and time compare graph below if more laps are open and time compare is enabled in setting dialog window (see paragraph 4.3.1)
- the storyboard (see paragraph 4.6) bottom of the view

As highlighted in the image below, zooming in the track map you can see the position of the vehicle in the open laps.



4.3 – The time/distance view

Central in the page of the software is a graph. It can be shown differently according to the setting you select in the top keyboard. The image here below shows its buttons;; buttons placed one above the other are switching buttons.



Here follow a short explanation of the different options activated by the buttons; options that will be shown in the following pages.

Zoom:

- Custom zoom ON: dragging and dropping the graph cursor you define the time period/run distance to zoom
- The other icons allows to zoom in/out the graph and reset the zoom

Plot:

- by distance: you have run distance on the abscissa axis and RPM value on the ordinate axis
- by time: you have run time on the abscissa axis and RPM on the ordinate axis

Snap:

- ON: the graph can show only part of the graph included in a complete laps
- OFF: the graph can show also part of the graph belonging to different but following laps

Slice/GPS Timing (useful to show different pilots in the same race):

- Slice Analysis Mode: allows only "Time" on the abscissa axis; shows the selected time period in the storyboard and can be modified using the mouse wheel
- GPS timing analysis mode: allows both time and distance on the abscissa axis; shows the selected time period in the storyboard and can be modified using the mouse wheel

Delta ON: dragging and dropping the graph cursor the calculated time period/run distance is shown top left of the graph

Overlapped ON: all shown channels are shown in the same graph

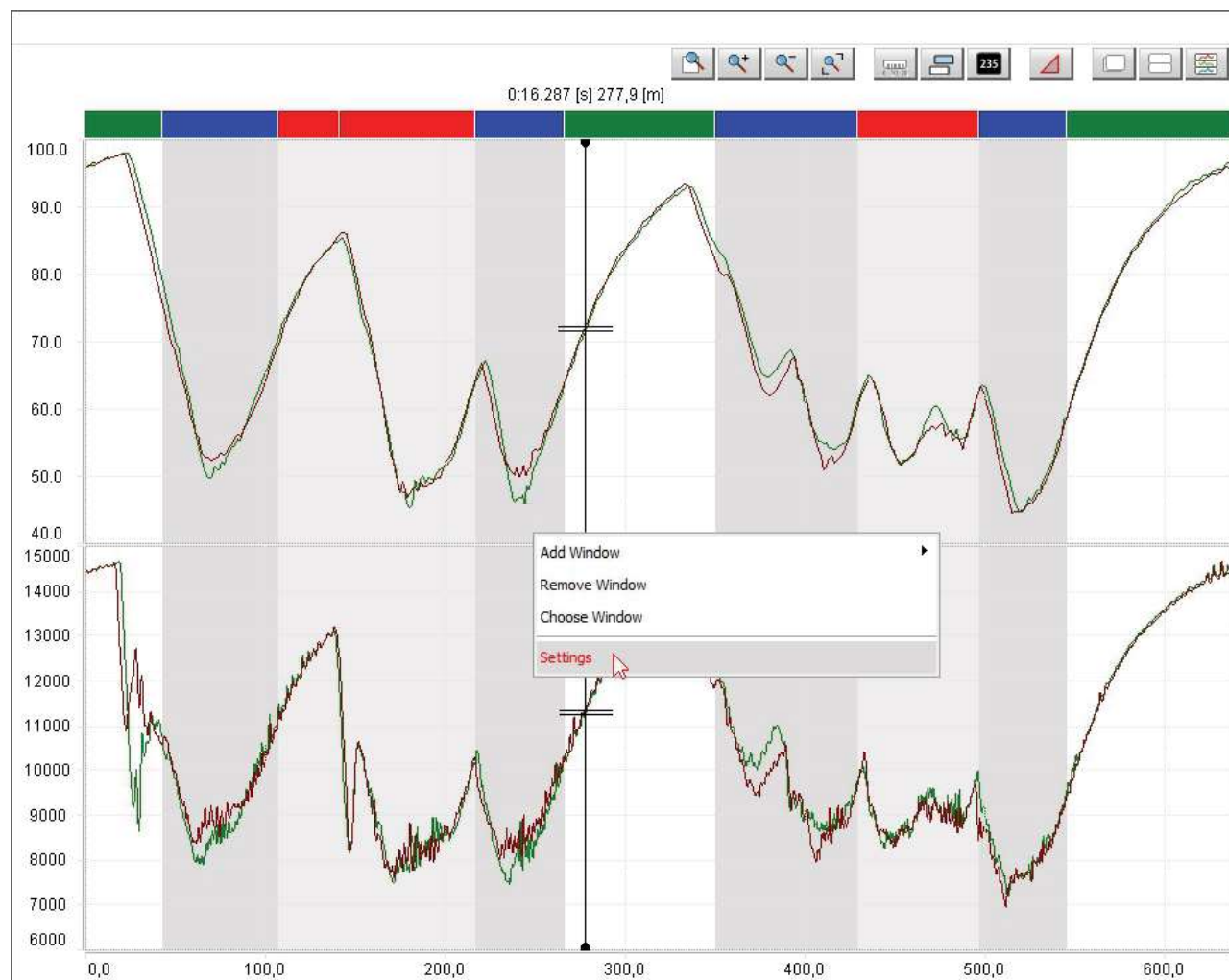
Mixed ON: you can decide which channel to show in which graph; a numbered box appears left of each shown channel in the channels table: clicking it you can decide in which graph to show that channel; max allowed number of graphs is 6

Tiled ON: each channel has its own graph

4.3.1 – The graph settings

The graph layout can be customized using the proper setting dialog window. To do so:

- place the mouse on the graph
- right click on it
- select “Settings”



With reference to the image below, "settings" dialog window allows different layout options:

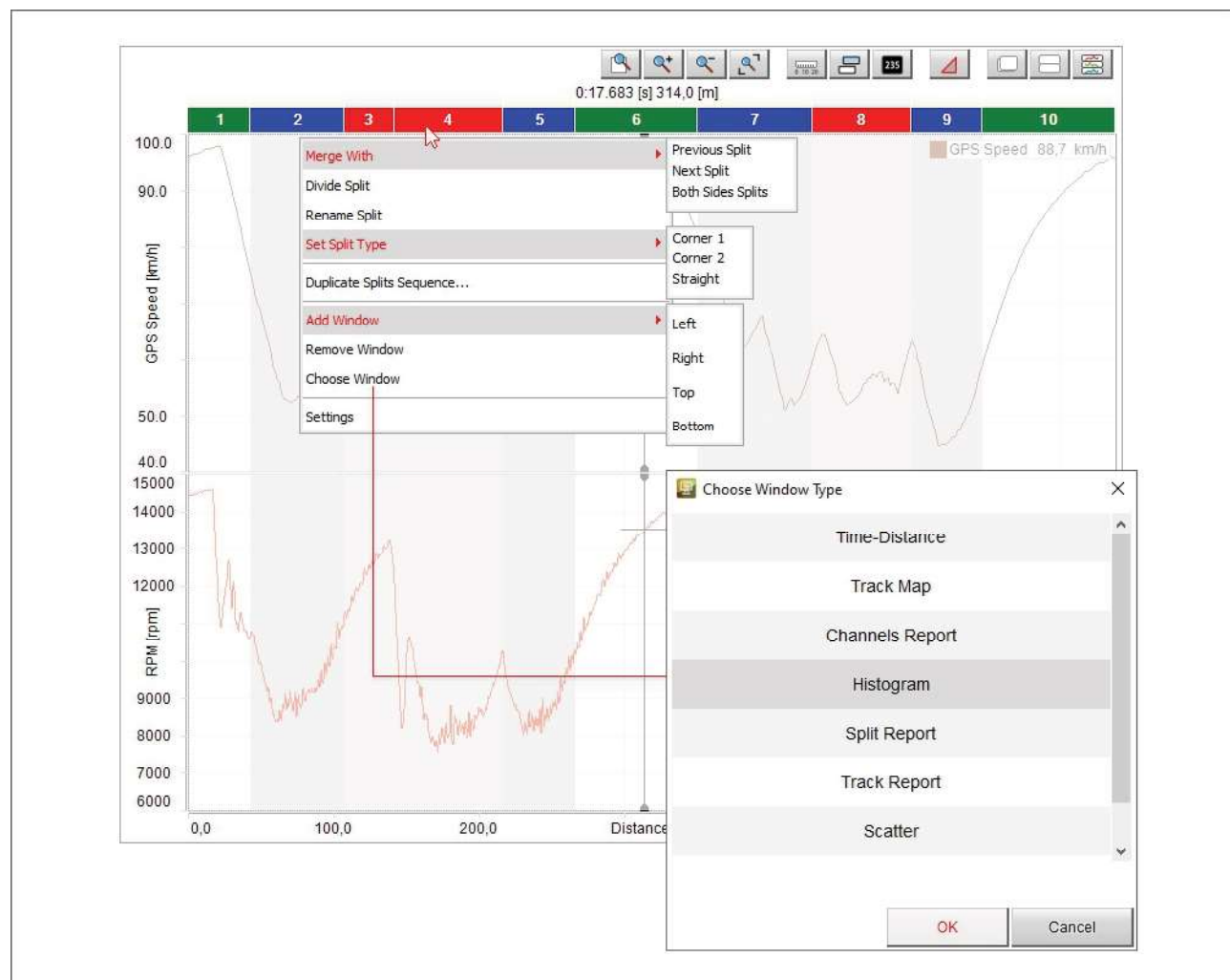
- **Show/Hide "Time compare" graph (1):** assumed that you are in "distance" mode (see paragraph 4.3) and more laps are selected a "Time compare" graph is available bottom of all graphs and can use normal or differential setting
- The graph lines can have different **Thickness/Dots size (2)**
- Change **Cursor Cross Line Type (3)**; available options are:
 - None (no cursor is shown)
 - Small
 - Large
 - Full in (the image below)
- The values of the channels plotted in the graph can be shown in dedicated boxes called **"Channels tags"** enabling the corresponding checkbox; clicking the channel tag the line of the channel whose tags has been pressed becomes thicker (2)
- When in **"Delta"** mode (see paragraph 4.3.7) data can be shown in different ways:
 - Rate: channel increasing rate
 - Average: channel average increasing rate
 - Average not zero: channel average increasing rate excluding when the channel value is zero
 - Only delta: the graph only shows the delta value
- **Min/Max** values tags are three boxes that shows min/max and average value of the channel; the point where the min/max value has been sampled can be indicated by a proper line (5) available options are:
 - always: they are always shown
 - on selected: they appear only selecting the channel tag
 - disabled: they are never shown
- Show/Hide axis **Labels**
- **Allow different channels in Panels** (see paragraph 4.3.2)
- **Hide the graph when the spacebar gets pressed** (see paragraph 4.1)



In time/distance plotting (paragraph 4.3.3) all graph splits are identified by a coloured bar top of the graph.

Clicking on a split the graph resizes at that split level and clicking again the top bar the graph shows again all splits. Different operations can be performed on the splits.

- Merge more splits. Each split can be merged:
 - with previous split
 - with next split
 - with both sides split
- Set split type as:
 - corner 1
 - corner 2
 - straight
- Add window):
 - left
 - right
 - top
 - bottom
- Change the graph with "Choose window" dialog window:
 - choose the graph (histogram in the example) and press "OK": the graph will be substituted



4.3.2 – Allow different Channel in panels setting (graph and storyboard view only)

The channels shown in the central graph and in the storyboard can be changed enabling the related checkbox in “Setting” dialog window. To show, for example, RPM and speed in the central graph and water temperature in the storyboard follow these instructions:

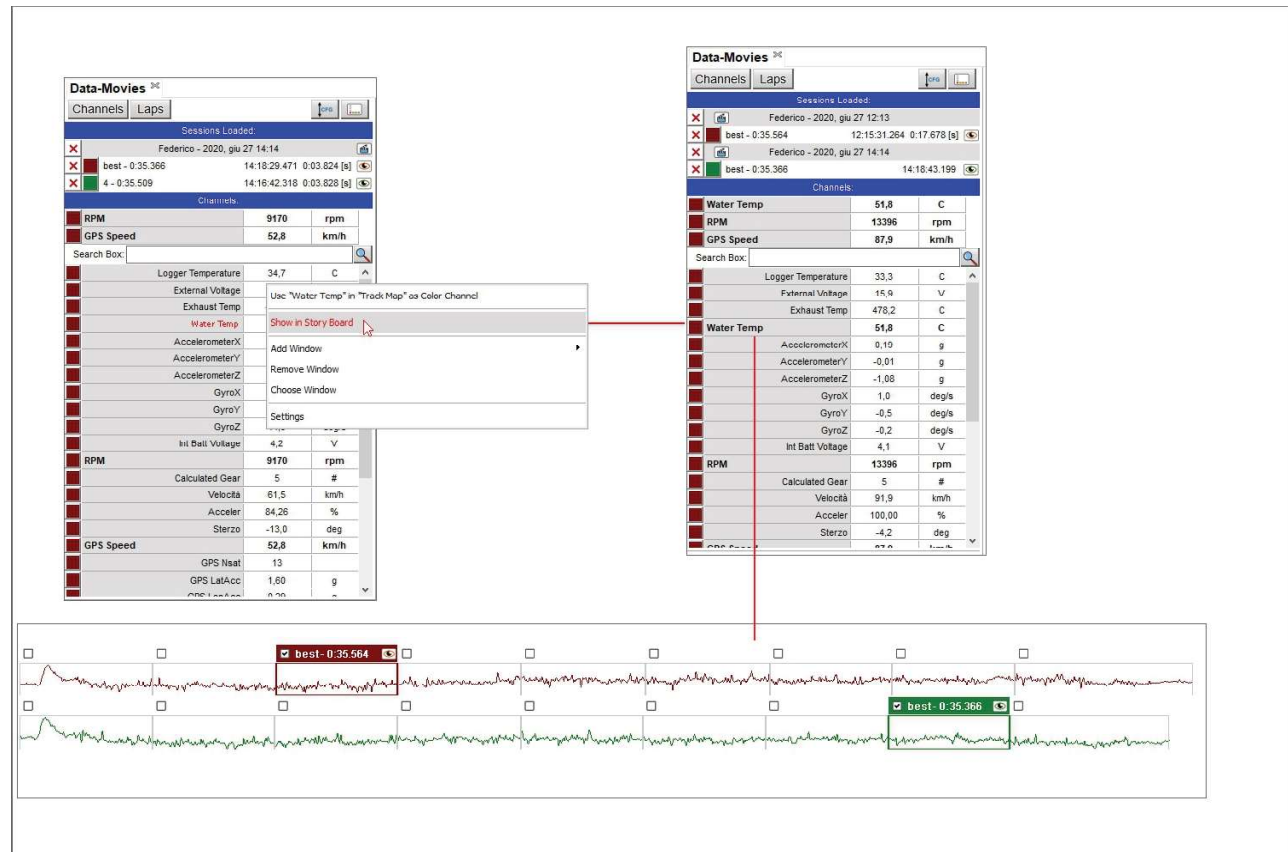
- place the mouse on the storyboard
- right click and select “Settings” options
- enable “allow different channels in panel” checkbox
- press “OK”





User Guide

- go in channels table and right click on “Water temperature” channel
- select the option “Show in storyboard”





User Guide

The images below show: on top the default view and bottom the view allowing different channels on the panels.

In the default view you see RPM and GPS speed both in the central graph and in the storyboard; each session is identified by a colour and you see two lines in the graphs of the storyboard.

Allowing different channels on panels you see RPM and GPS Speed in the central graph and water temperature in the storyboard graphs (one line only).





4.3.3 – Plotting the graph by Time/Distance

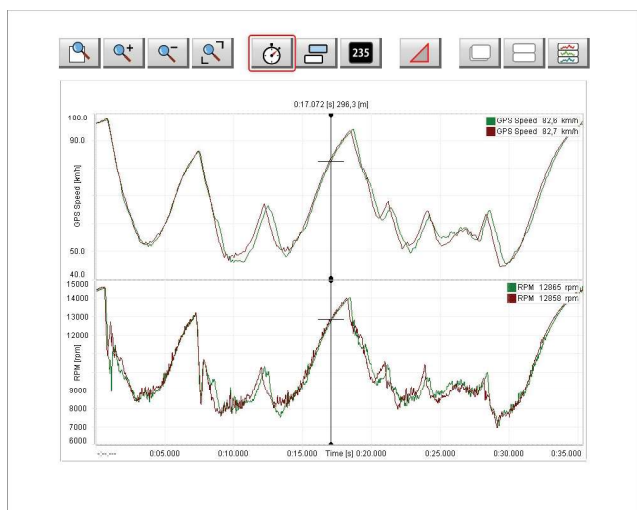
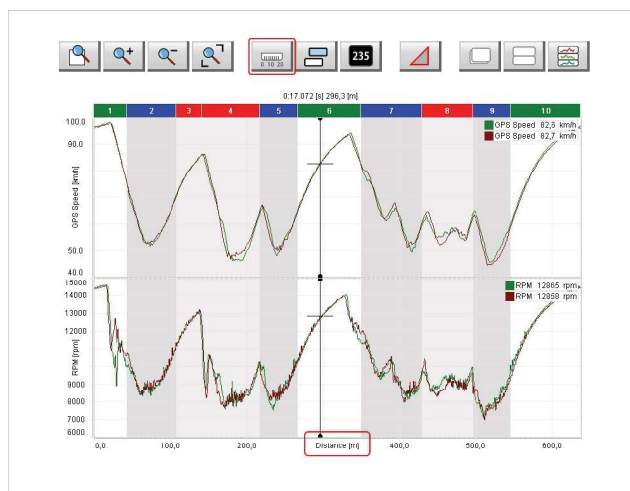
As shown here below, the main difference among the graphs is the channel plot on the abscissa axis:

- Distance plotting is shown here below on the left
- Time plotting is shown here below on the right.

In distance plotting the splits are identified by coloured bands top of the graph. The graph can be zoomed at a split level double clicking on the desired split.

To come back to standard zoom double click on the split band or press the proper button (see paragraph 4.3).

The graph can also be zoomed in/out with the mouse wheel.





User Guide

If more laps are open for analysis each one is indicated by an icon according to its status. In the image below the icons are shown centrally:

- Reference lap (top icon): is the one used in time compare graph (see image in the following page)
- Lap loaded with video and map (central icon)
- Lap loaded but without video nor track map (bottom icon); this happens if more than two laps (reference slices) are loaded with default settings and if more than 4 laps (reference slices) are loaded with custom settings (see paragraph 3.1 for further information)





User Guide

“Time Compare” graph appears bottom of the graph view if enabled in the setting dialog window (see paragraph 4.3.1)

- Using a lap as reference lap (👁️) it shows in a graph the time differences among the reference lap and the other loaded laps.

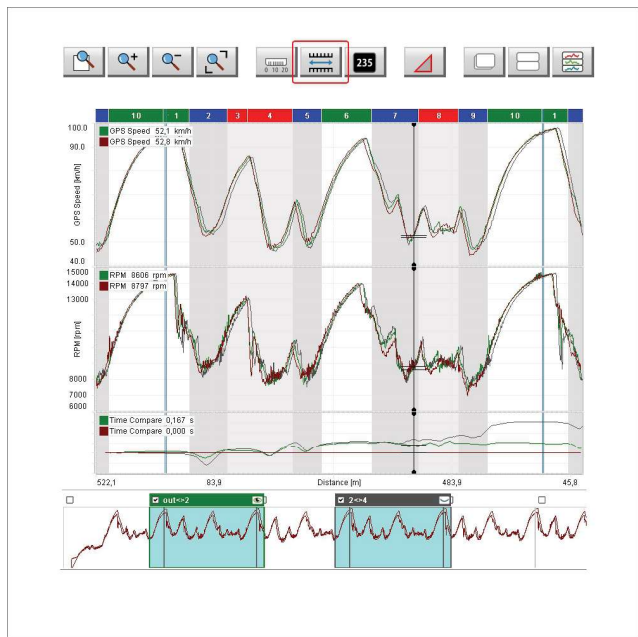
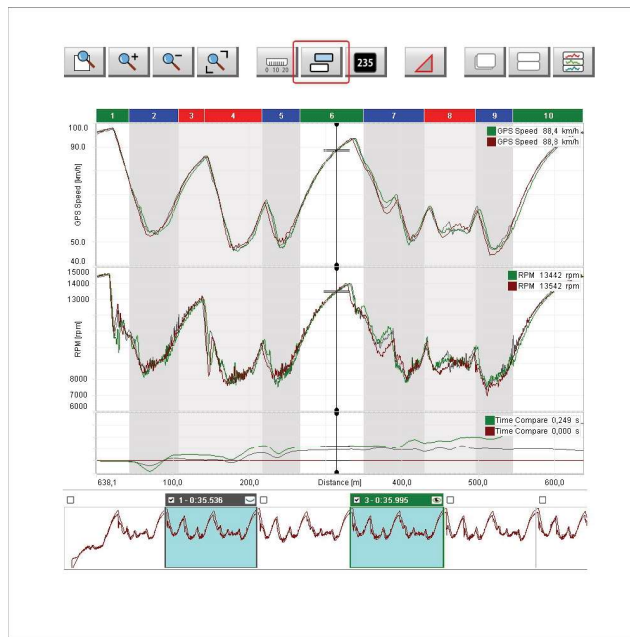




4.3.4 – Graph Snap ON/OFF mode

As shown here below:

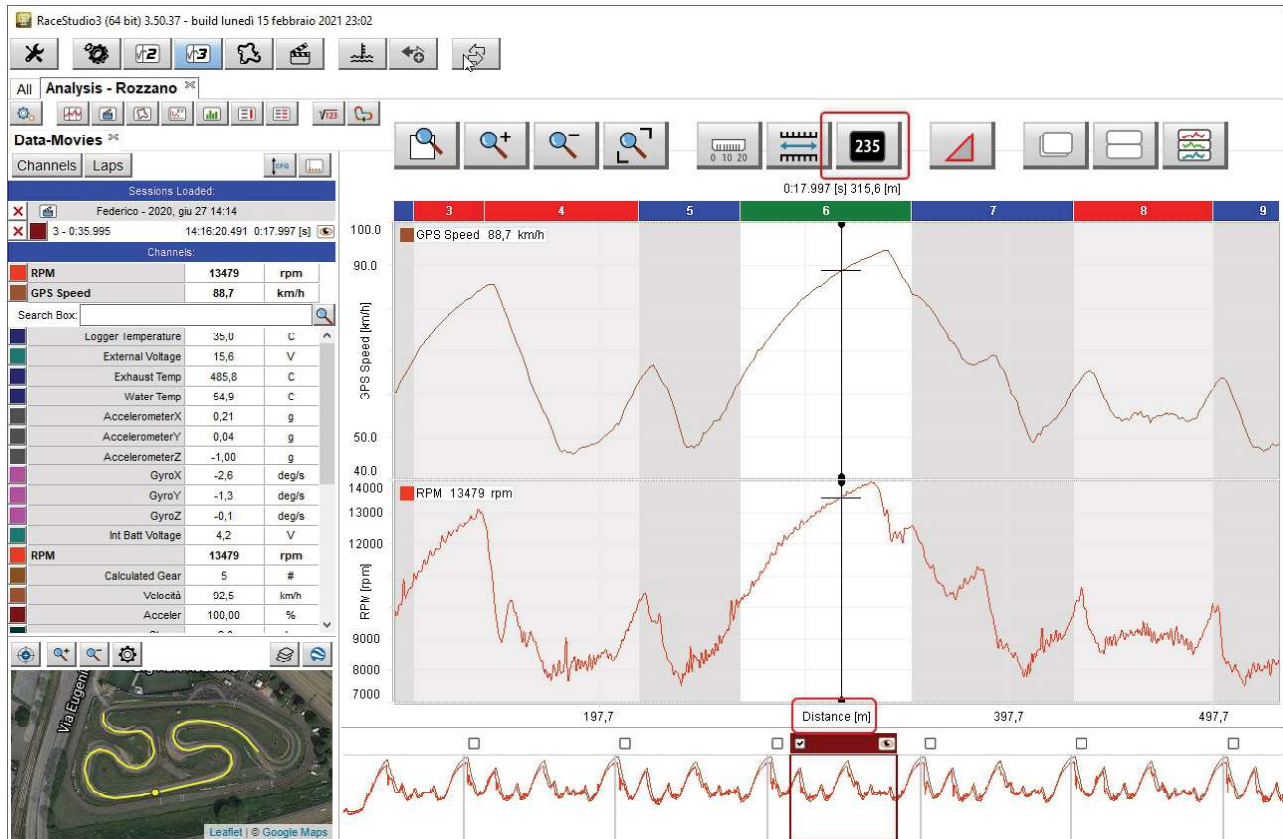
- with snap on (left image) the max part of race you can see on the abscissa axis of the graph is an entire lap; the graph can be zoomed in/out using the mouse wheel but zoom out cannot exceed an entire lap; as for plot by distance, snap on shows the lap splits top of the graph
- with snap OFF (right image) the part of the race you can see on the abscissa axis is bigger than an entire lap; the graph can be zoomed in/out with the mouse wheel and zoom out can reach the entire session.



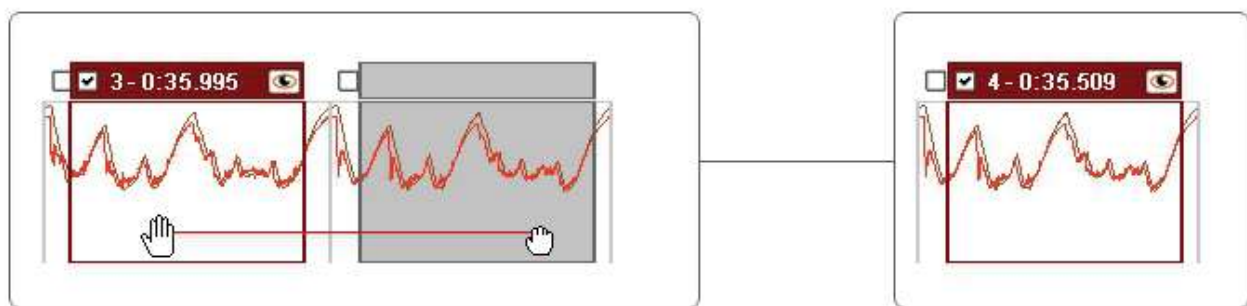
4.3.5 – Graph Slice Analysis/GPS Time Mode

In “Slice Analysis” mode:

- you can have both Time or Distance on the abscissa axis
- the track box, the boxes in the storyboard and the central graph show the part of the track that is being analysed
- the graph can be zoomed in/out with the mouse wheel.



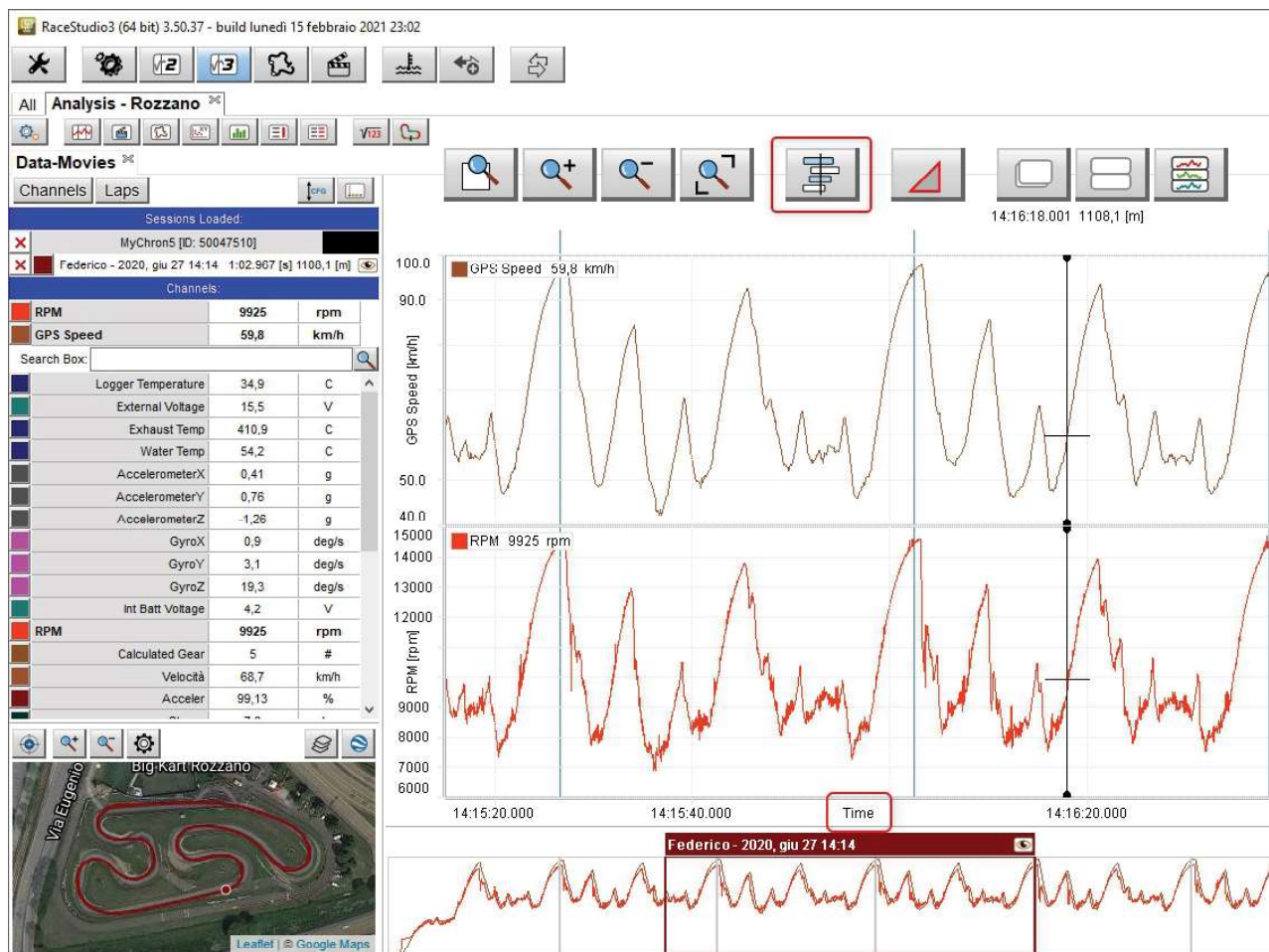
- dragging and dropping the selection in the storyboard you can see the same slice of a lap in the following lap; in the example below you moved the slice from lap 3 to lap 4.



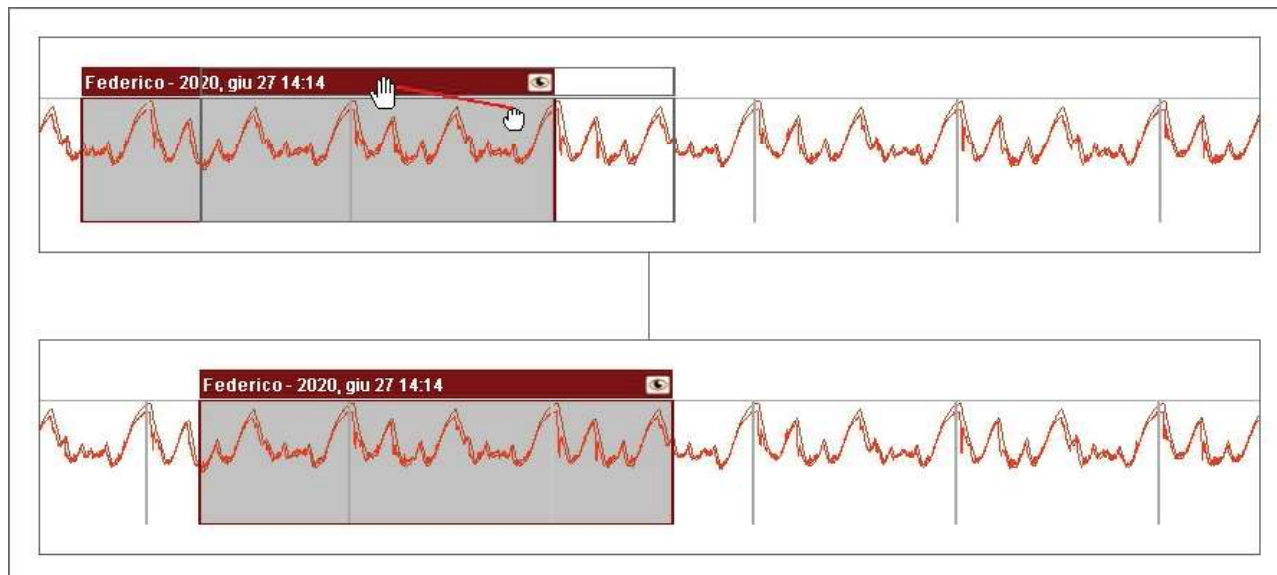


User Guide

In “GPS Timing” mode the abscissa axis shows “Time” and the storyboard selects a fixed range of time; the graph can be zoomed in/out with the mouse wheel.



- dragging and dropping the selection in the storyboard the slice of race shown in the graph is moved as shown here below.



4.3.6 – Graph zooming

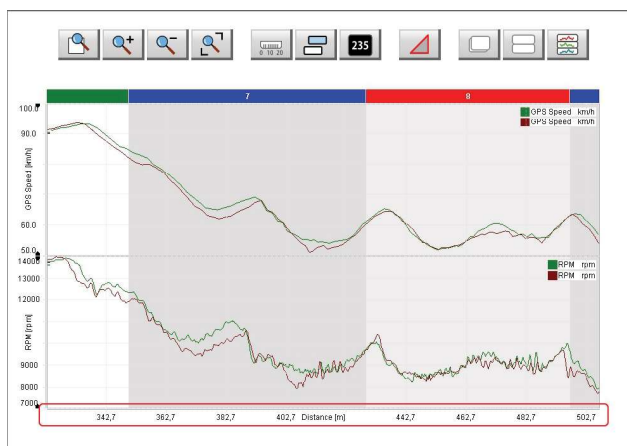
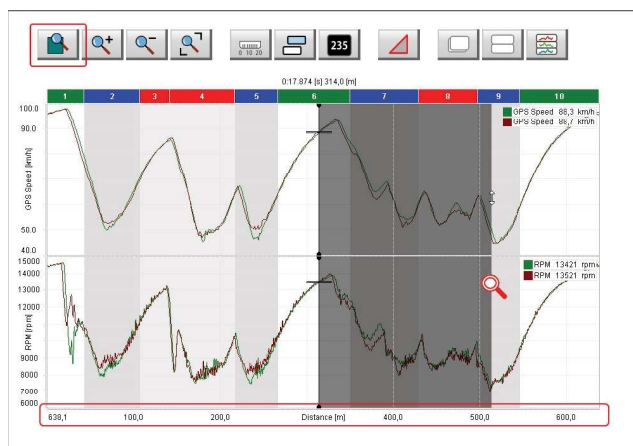


With the zoom buttons you can:

- Activate/deactivate the custom zoom 
- zoom in/out and reset the graph zoom 

If you want to **zoom in a specific part of the graph**:

- click on the zoom icon and it activates (left image below)
- hook the cursor
- a magnifying lens appears: drag the cursor as desired and the selected part is highlighted in dark grey (left image below)
- release the cursor and the graph is zoomed in (image here below on the right)



Once the graph is zoomed in the part of the track you have zoomed in is shown in the related box bottom left of the software page.

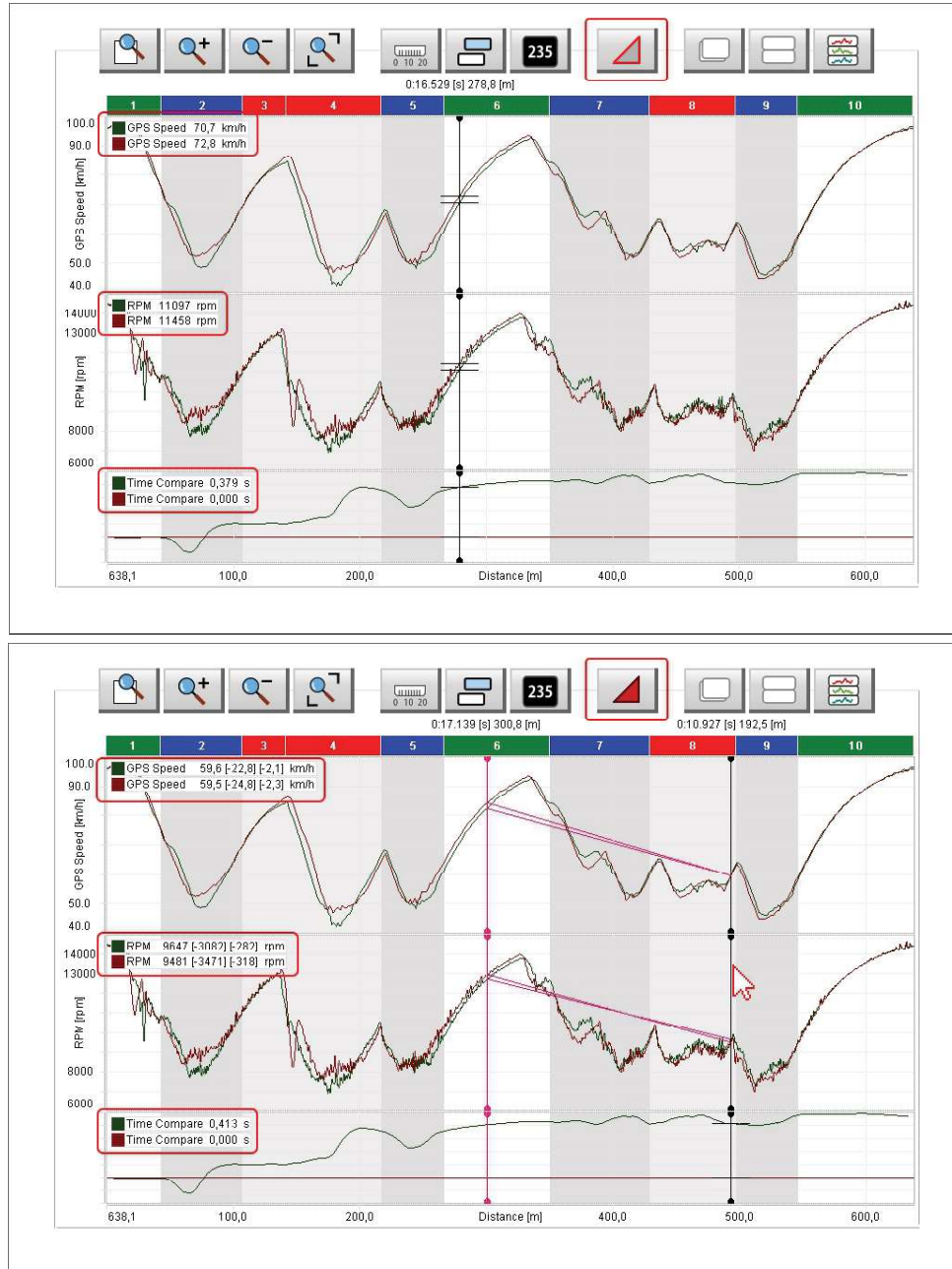


4.3.7 – Graph in delta Mode



Using “Delta” mode you can analyse the delta of a channel in two points. To do so:

- click “Delta” icon: top image below
- hook the graph cursor and drag it as you wish
- release the cursor: the delta is shown left of the graphs as shown in the bottom image.

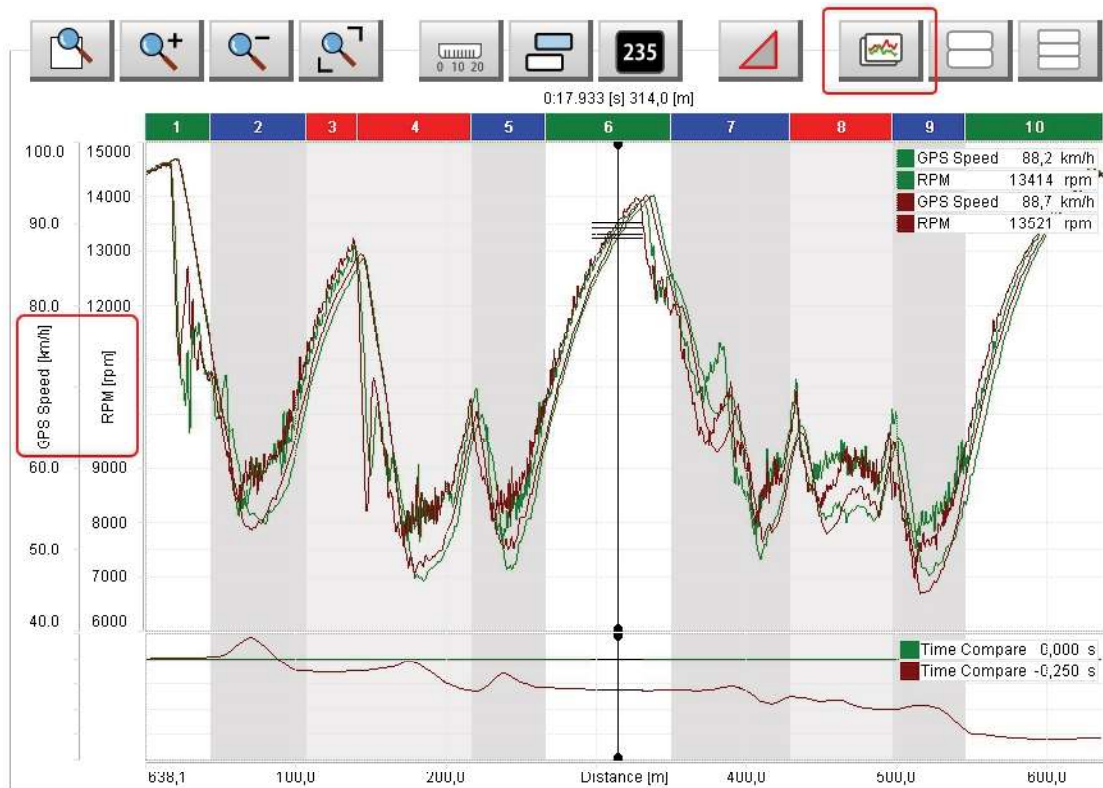




4.3.8 – Graphs plotting overlapped

When the graph plotting is overlapped all channels are shown in the same graph and the values of different channels belonging to the same session are identified by the same colour as shown. In the example below:

- a session is plotted green and the other burgundy
- the channels you are analysing are both indicated on the ordinate axis
- the graph plot base is distance and so “Time Compare” graph is shown bottom of the main graph if enabled in setting dialog window (paragraph 4.3.1).

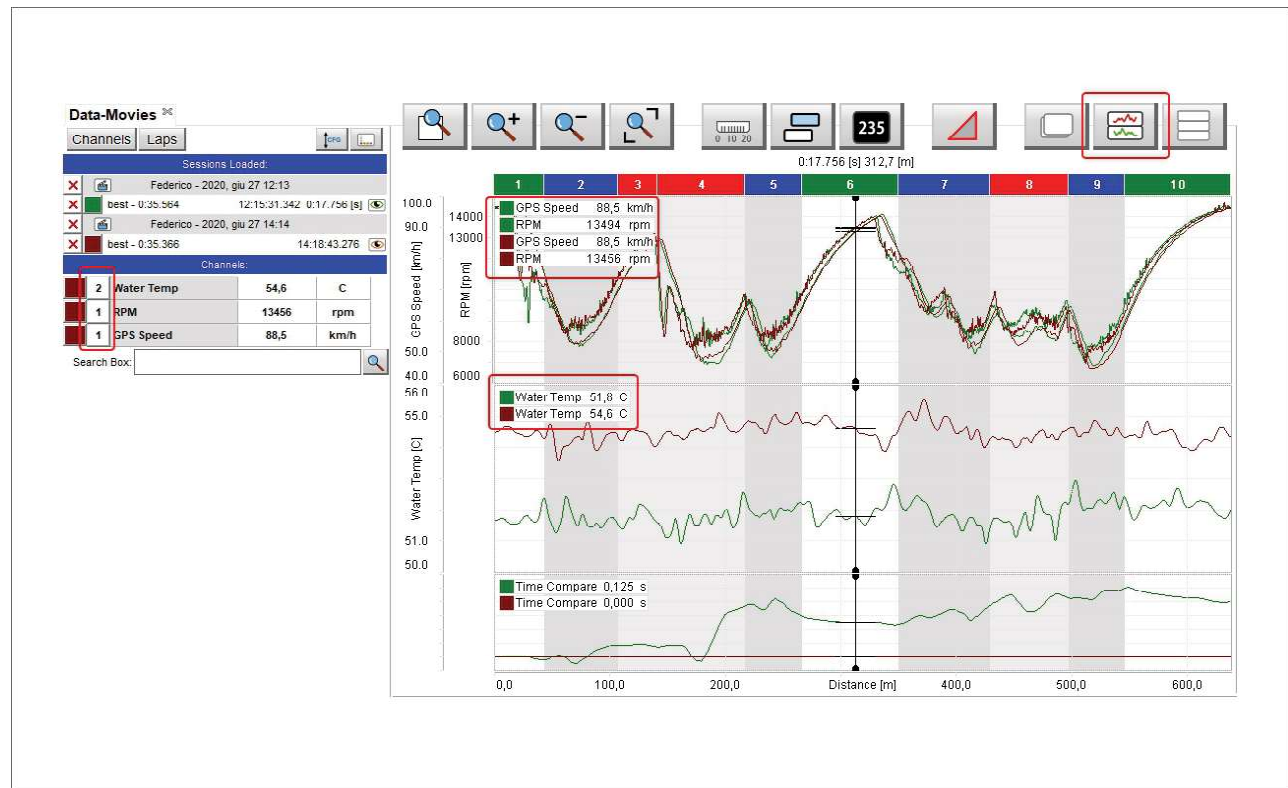




4.3.9 – Graphs plotting mixed

When the graph plotting is mixed you can decide where to plot each channel and the values of different channels belonging to the same session are identified by the same colour. In the example below:

- a session is plotted green and the other burgundy
- RPM and GPS Speed channels are plotted in graph "1" (Top)
- Water Temperature is plotted in graph "2" (central)
- You can change the graph where a channel is plotted clicking on the box left of the channel in channels table
- max allowed number of graphs is six
- the channels you are analysing are both indicated on the ordinate axis
- the graph plot base is distance and so "Time Compare" graph is always shown bottom of the other graphs if enabled in setting dialog window (paragraph 4.3.1).





4.3.10 – Graph plotting tiled

When the graph plotting is tiled each channel is plotted in a graph and the channels belonging to the same session are identified by the same colour. In the example below:

- a session is plotted green and the other burgundy
- plotted channels are RPM, Velocità (Speed) and water temperature
- the channels you are analysing are indicated on the ordinate axis and in the channels tags (if enabled in setting dialog window – see paragraph 4.3.1) top left of each graph

