

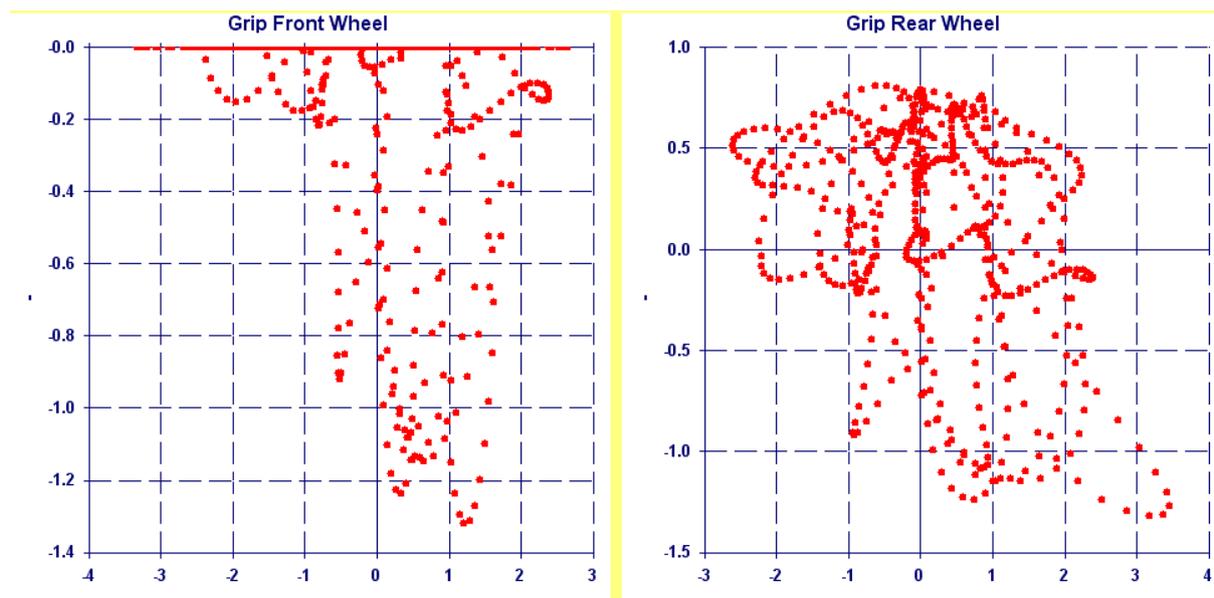
SOFTWARE KART ANALYSIS EXAMPLE UTILIZATION

The software Kart Analysis allows to obtain many technical informations from your data acquisition about the chassis and the tyres.

To follow we will show the main uses of the outputs

GRIP

Useful to compare different runs or different sessions, the lap time is the main quantity that you watch, but it depends from many factors. With the software Kart Analysis instead you can see immediately how has worked your chassis and your tyres analyzing the grip wheel by wheel.



FRONT

BRAKE MAX GRIP 1.32

SX CORNER MAX GRIP 3.33

DX CORNER MAX GRIP 2.64

REAR

BRAKE MAX GRIP 1.32

TRACTION MAX GRIP 0.81

SX CORNER MAX GRIP 2.62

DX CORNER MAX GRIP 3.45

These values are independent from the engine, the driving, etc., then when to compare two sessions you can understand immediately where your chassis or your tyres has worked better.

FRONT		
BRAKE MAX GRIP	1.32	1.04
SX CORNER MAX GRIP	3.33	3.16
DX CORNER MAX GRIP	2.64	2.61
REAR		
BRAKE MAX GRIP	1.32	1.04
TRACTION MAX GRIP	0.81	0.80
SX CORNER MAX GRIP	2.62	2.45
DX CORNER MAX GRIP	3.45	3.15

In this case for example in the comparison of the grip you can understand that in the first session (red color) the grip has always been better on the corner, similar in traction, and better in braking. This says you immediately a global information about the effects of the setup changes between the two sessions compared.

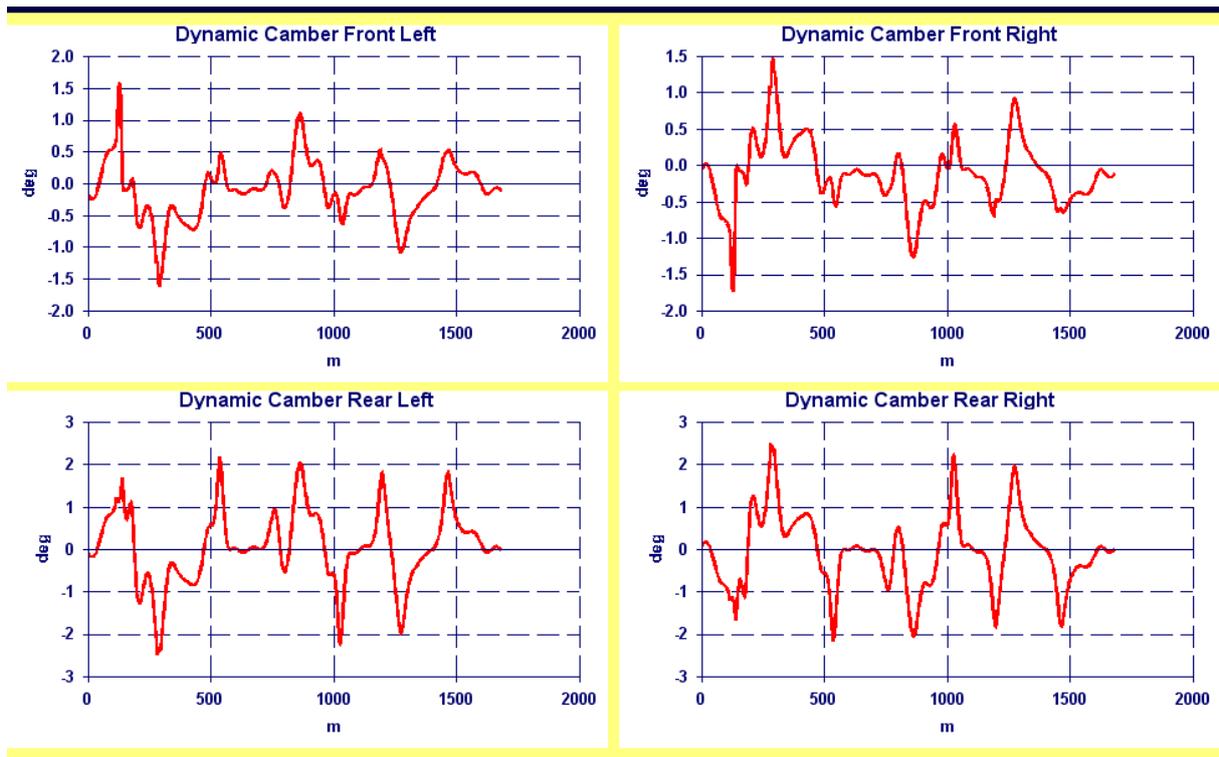
Moreover when you begin to know the values of grip that your tyres can give, you can use these results in sense absolute to understand for example if your driver can be more aggressive on brake, or on corner, because you see that there is margin.

After the global analysis of grip, the software gives you specific information about the behavior of your chassis, and the relative advices to improve the setup.

CAMBER

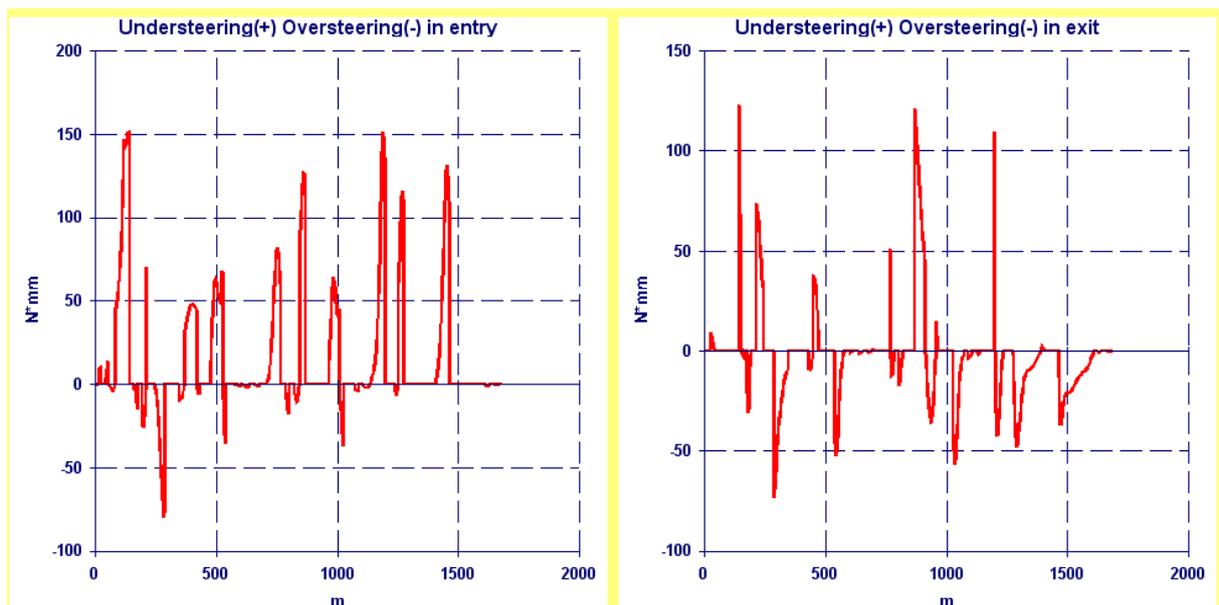
In the kart you can modify the static camber of the front wheels, but the torsion of the frame makes a dynamic camber that change point by point on the track, and track by track. Given that the grip of the tyre is very influenced from the camber, to know the dynamic camber is really important. Thanks to the software Kart Analysis you can see these values, and to see track by track how adjust the static camber or the axle stiffness to make work the tyres always on the right values of camber.

FRONT	
CAMBER INDEX	-0.11 -> increase camber
REAR	
CAMBER INDEX	-0.56 -> soften rear



CASTER – FRONT TRACK – REAR TRACK

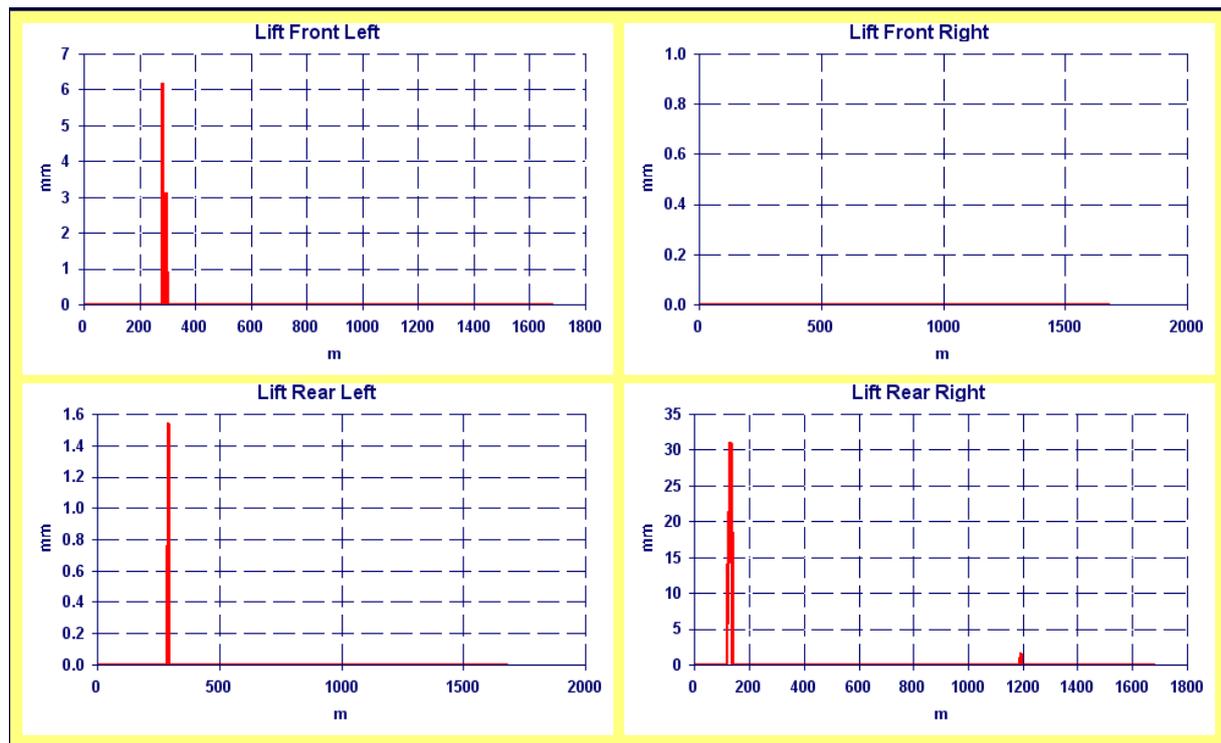
In the kart another factor really important is the uplift of the internal wheel on corner because there isn't the differential. To obtain this you must act mainly on the caster angle, and of the measure of the front and rear tracks. To find the right compromise between understeering and oversteering isn't easy. Thanks to the software Kart Analysis you can see the reaction of the kart at the entry and at the exit of the corner, so you can have a technical information that you can compare with the sensations of the driver.



From the analysis of these values the software gives indications to adjust the setup to obtain always the feeling favorite from the driver.

CHASSIS	
REACTION ENTRY	35.26 N*mm -> increase caster - enlarge front
REACTION EXIT	-5.09 N*mm

Moreover the software shows the lift of the four wheels point by point of the track, so analyzing the entity of the values you can see if your setup in the different track can bring too low or too high uplift of the wheels and to act accordingly to correct the setup.

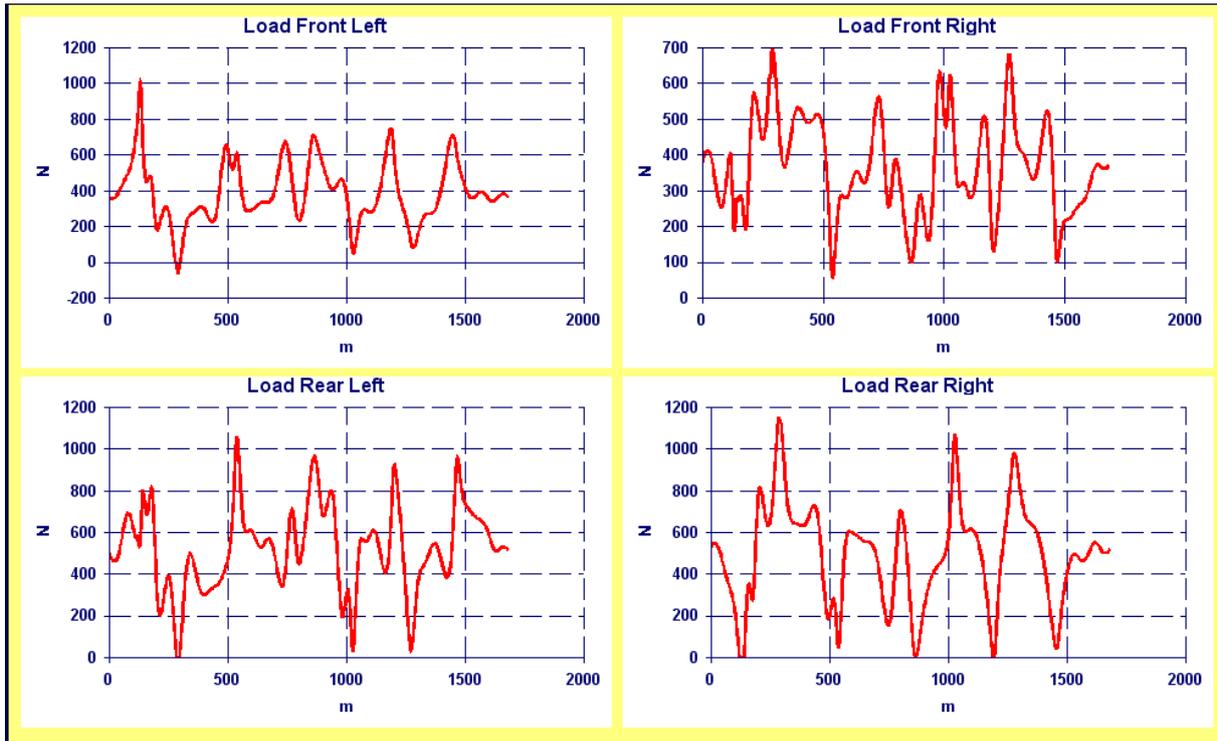


TYRES PRESSURE

An other factor very important is the pressure of the tyre, in fact track by track the load on the four wheels changes. Thanks to the software Kart Analysis is possible to see the load that act on each wheel point by point on the track.

From the analysis of these values the software calculates the right pressure that must have each tyre to work at the best and give the maximum grip.

FRONT	
SX TYRE DEFLECTION	10.59 mm -> recommended pressure 0.78 bar
DX TYRE DEFLECTION	9.11 mm -> recommended pressure 0.58 bar
REAR	
SX TYRE DEFLECTION	13.73 mm -> recommended pressure 0.90 bar
DX TYRE DEFLECTION	13.65 mm -> recommended pressure 0.89 bar



How you've seen thanks to the software Kart Analysis you can see all the quantities important to understand as works your chassis (dynamic camber, wheels uplift, understeering oversteering reactions, wheels load), and to have indications to improve your setup (camber, caster, axle, front and rear tracks) and the tyres pressure optimal for the track.

Moreover the software calculates also quantities to have others informations about your session (trajectory, wheel power, gear select, steering kinematic angle).

