This book contains a number of equations that use a variety of English letters and Greek symbols. The following list will help you better understand the equations.

**English Letters**

- **A** Frontal vehicle surface
- **A** Skewness of a normal distribution
- **a** Acceleration
- **a** yaw Yaw acceleration
- **a** hub Hub vertical acceleration
- **a** suspension Suspension acceleration
- **C** Damping coefficient
- **C** Damping constant for heave
- **C** Damping constant for pitch
- **C** Damping constant for roll
- **C** Damping constant for warp
- **C** Aerodynamic drag coefficient
- **C** Aerodynamic lift coefficient
- **C** Damping coefficient
- **C** H Damping constant for heave
- **C** P Damping constant for pitch
- **C** R Damping constant for roll
- **C** X Damping constant for warp
- **d** Distance, lap distance
- **D** Aerodynamic drag force
- **E** Elasticity modulus
- **F** Force
- **F** Normal force
- **F** Acceleration force
- **F** spring Spring force
- **F** shock Shock absorber force
- **F** Rolling resistance force
- **F** res Resisting force
- **F** Aero Aerodynamic force
- **F** CP Tire contact patch force
- **F** Suspension Suspension force
- **FRF** Frequency response function
- **FRF** CP-body Frequency response function tire contact patch—body
- **FRF** CP-hub Frequency response function tire contact patch—hub
- **g** Gravitational acceleration \( \left( g = 9.81 \text{ m/s}^2 \right) \)
- **G** lat Lateral acceleration
- **G** Long Longitudinal acceleration
- **G** vert Vertical acceleration
- **G** combined Combined acceleration
- **GF** Gage factor
- **G** 2 Kurtosis of a distribution
- **h** Height
- **h** roll Distance between vehicle center of gravity and roll axis
- **h** RCF Height front roll center from ground
- **h** RCR Height rear roll center from ground
- **h** CoG Height center of gravity from ground
- **h** F Height front unsprung weight center of gravity from ground
- **h** R Height rear unsprung weight center of gravity from ground
- **i** Gear ratio
- **i** total Total gear ratio
- **k** Spring rate
- **K** Spring rate
- **K** rolltot Total roll stiffness
- **K** rolff Front roll stiffness
- **K** rollr Rear roll stiffness
- **K** rollSPRINGS Spring roll stiffness
- **K** rolffSPRINGS Front spring roll stiffness
- **K** rollrSPRINGS Rear spring roll stiffness
- **K** rollARB Roll stiffness antiroll bar
- **K** rolffARB Roll stiffness front antiroll bar
- **K** rollrARB Roll stiffness rear antiroll bar
- **K** H Vehicle heave spring rate
- **K** P Vehicle pitch spring rate
- **K** R Vehicle roll spring rate
- **K** X Vehicle warp spring rate
- **K** total Total spring rate
- **K** spring Spring rate
- **K** tire Tire spring rate
- **L** Aerodynamic lift force
- **L** Length
- **m** Mass
- **m** wheel Wheel mass
- **MR** Suspension motion ratio
- **MR** F Front suspension motion ratio
- **MR** R Rear suspension motion ratio
MR$\text{RollR}$ Rear antiroll bar motion ratio
$M_{\text{roll}}$ Roll moment
$M_i$ Total vehicle mass
$M_{1/4}$ One-quarter body mass
$M_i$ Translational mass
$M_R$ Equivalent rotational mass
$M_{\text{R}}$ Wheel equivalent mass for roll
$M_P$ Wheel equivalent mass for pitch
$M_f$ Mass factor
$n_i$ Amount of samples
$n$ Amount of moles
$n_{\text{engine}}$ Engine RPM
$n_{\text{driveshaft}}$ Driveshaft RPM
$P$ Pressure
$P_a$ Pressure of dry air
$P_w$ Pressure of water vapor
$P_{\text{engine}}$ Driven wheel power
$P_{\text{G}}$ Pitch gradient
$q_i$ Dynamic pressure
$q$ Roll stiffness distribution factor
$R_i$ Corner radius
$R$ Electrical resistance
$R_i$ Gas constant
$R_a$ Gas constant of dry air
$R_w$ Gas constant of water vapor
$R_X$ Tire rolling resistance coefficient
$r_{\text{rolling}}$ Dynamic tire radius
$R_G$ Roll gradient
$R_{\text{GF}}$ Front roll gradient
$R_{\text{GR}}$ Rear roll gradient
$SR_i$ Slip ratio
$SR_{\text{F}}$ Front spring rate
$SR_{\text{R}}$ Rear spring rate
$SR_{\text{chassis}}$ Chassis torsion spring rate
$t_i$ Time
$T$ Temperature
$T_i$ Track width
$T_F$ Front track width
$T_R$ Rear track width
$T_{\text{wheel}}$ Wheel torque
$T_{\text{mass}}$ Acceleration torque
$v_i$ Shock absorber velocity
$V_i$ Volume
$V$ Speed
$V_{\text{slip}}$ Slip velocity
$V_0$ Free rolling velocity
$V_{\text{out}}$ Output voltage
$V_{\text{in}}$ Input voltage
$W$ Vehicle weight
$W_{\text{SPD}}$ Wheel speed
$W_{B}$ Wheelbase
$W_{\text{s}}$ Sprung weight
$W_{\text{SF}}$ Sprung weight on front axle
$W_{\text{SR}}$ Sprung weight on rear axle
$W_{\text{uF}}$ Front unsprung weight
$W_{\text{uR}}$ Rear unsprung weight
$WR_{\text{F}}$ Front wheel rate
$WR_{\text{R}}$ Rear wheel rate
$WR_{\text{SPRINGF}}$ Wheel rate of front springs
$WR_{\text{SPRINGR}}$ Wheel rate of rear springs
$WR_{\text{ROLLF}}$ Wheel rate of front antiroll bar
$WR_{\text{ROLLR}}$ Wheel rate of rear antiroll bar
$W_{\text{f1}}$ Front wheel weight measured with car on level surface
$W_{\text{f2}}$ Front wheel weight measured with raised rear axle
$W_{\text{LF}}$ Left-front corner weight
$W_{\text{RF}}$ Right-front corner weight
$W_{\text{LR}}$ Left-rear corner weight
$W_{\text{RR}}$ Right-rear corner weight
$x_{\text{wheel}}$ Wheel movement
$x_{\text{LF}}$ Left-front wheel movement
$x_{\text{RF}}$ Right-front wheel movement
$x_{\text{LR}}$ Left-rear wheel movement
$x_{\text{RR}}$ Right-rear wheel movement
$x_{\text{suspension}}$ Suspension movement
$x_{\text{suspensionLF}}$ Left-front suspension movement
$x_{\text{suspensionRF}}$ Right-front suspension movement
$x_{\text{suspensionLR}}$ Left-rear suspension movement
$x_{\text{suspensionRR}}$ Right-rear suspension movement
$x_H$ Heave movement
$x_P$ Pitch movement
$x_R$ Roll movement
$x_X$ Warp movement
$x_{\text{CP}}$ Tire contact patch movement
$x_{\text{hub}}$ Hub movement
Greek Symbols

- $\alpha$: Banking angle
- $\alpha_{\text{roll}}$: Roll angle
- $\alpha_{\text{rollF}}$: Front roll angle
- $\alpha_{\text{rollR}}$: Rear roll angle
- $\alpha_{\text{rolltires}}$: Tire roll angle
- $\alpha_{\text{rolltiresF}}$: Front tire roll angle
- $\alpha_{\text{rolltiresR}}$: Rear tire roll angle
- $\alpha_{\text{torsion}}$: Chassis torsion angle
- $\beta_{\text{pitch}}$: Pitch angle
- $\delta$: Steered angle
- $\delta_{\text{u}}$: Understeer angle
- $\delta_{\text{SW}}$: Steering wheel angle
- $\delta_{\text{Acker}}$: Ackermann steering angle
- $\varepsilon$: Emissivity
- $\varepsilon$: Strain
- $\zeta$: Roll angle ratio
- $\theta$: Track slope angle
- $\mu$: Average
- $\mu$: Friction coefficient
- $\mu^{1/2}$: Median
- $\rho$: Density of air
- $\rho_{15}$: Fuel density at 15°C
- $\sigma$: Standard deviation
- $\sigma$: Material stress
- $\sigma^2$: Variance
- $\omega$: Frequency
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NOTE: Page references followed by f refer to figures and t refer to tables.

Absolute pressure sensor (fluid pressure), 161f

**Acceleration**
- braking and, 45, 45f
- cornering and, 68–69, 69f
- sensors, 161–162, 163f
  
  *see also* cornering; gearing; lateral acceleration; longitudinal acceleration; straight-line acceleration; throttle

**Ackermann steering angle**, 65, 67f

**Aerodynamics**, 2, 121–129
- airbox efficiency and, 128–129, 129f
- air density and, 122–123, 122f, 123f
- center of pressure, 121, 127f, 128f
- coastdown test, 124–126, 125f
- cornering and, 62–63
- differential pressure sensor, 161f
- downforce measurements of, 121–122, 121f, 126–128, 127f, 128f
- drag measurements of, 34, 40, 121–122, 121f
- dynamic pressure and, 123–124, 124f
- simulation example and, 145–148, 146f, 147f
- straight-line acceleration and, 33, 34–35, 34f, 36–37, 37f, 40
  
  *see also* cornering; measurement techniques; straight-line acceleration

**Analog-digital conversion**, accuracy of, 153–154, 153r

**Antiroll elasticity**, 114

**Atmospheric conditions**, 122–123, 122f, 123f

**Attitude velocity**, cornering and, 68, 68f

**Axle crossing.** See *warp*

Bosch
- AM 600 accelerometer, 154–155, 155f
- engine-controlled TCS, 38–39, 39f
- LapSim, 52, 144, 145–148, 146f, 147f

**Braking**, 2, 45–49
- ABS/TCS and slip ratios, 38–39, 39f
- acceleration and deceleration, 45, 45t
- brake balance, 48–49, 49f
- braking effort, 45–46, 46f
- braking points, 46–47, 46f
- comparative analysis, 28
- driver analysis, 134–136, 135f, 136f
- lockup and, 47–48, 48f
- maximizing braking speed, 45, 45f
- pedal travel and, 49, 49f
  
  *see also* aerodynamics; cornering; straight-line acceleration

**Breakout**, 41

**Bump**, 97–99, 97f. *see also* shock absorbers

**CALLAS Motorsports (Sera-CD)**, 144

**Capacitive accelerometers**, 161–162, 163f

**CarSim (Mechanical Simulation Corporation)**, 144

**Center of gravity**, 81–83, 81f, 82f. *see also* wheel loads

**Center of pressure**, 121, 127f, 128f. *see also* aerodynamics

**Chassis**
- balance of, and driving style, 131
- kinematics simulation, 141, 142–143, 142f, 143f, 144f
- parameters of, 3
- torsion and wheel loads, 94–95
- vertical movement of, 10, 13f
  
  *see also* roll stiffness distribution; wheel loads

"Christmas tree,” 41

**Coastdown test**, 124–126, 125f. *see also* aerodynamics

**Color**, for channel groupings, 15

**Comparative analysis**, 1, 19–32
- beginner's data logging kit for, 28–32, 29f, 30f, 31f, 32f
- GPS and track mapping, 27–28, 28f
- inertial track mapping, 26–27, 27f
- lap markers and segment times, 21–22, 21f, 22f
overlaying for, 11–13, 15f, 22–26, 23f, 24f, 25f, 26f, 131, 137f, 139, 139f
for vital signs of vehicle, 19–20, 19f, 20f, 21f
Computational Fluid Dynamics (CFD), 141
Constant velocity test, 127f, 128
Controller area networks (CAN), 6–8, 6f
Cornering, 2, 59–69
attitude velocity and, 68, 68f
comparative analysis and, 21
corner exiting speed, 40, 41f
cornering sequence, 59–60, 59f, 60f
driving analysis of, 136–137, 137f (see also driving style)
effects of speed on, 62–63
front and rear lateral acceleration and, 68–69, 69f
steady-state, 98–99
steering and, 64–67, 66f, 67f, 69f
throttle histogram and, 63–64, 63f, 65f
traction circle and, 60–63, 60f, 61f, 62f, 63f
see also braking; frequency analysis; roll stiffness distribution; shock absorbers; wheel loads
Creuat S.L., 97
CSV (comma-separated values) format, 14, 16f
Cumulative variance, 23–24, 23f, 24f

Damping rate

damping analysis, 97–99, 97f, 98f, 99f, 104–107, 105f
defined, 87
Dashboard systems, driver display, 132. see also individual names of products and manufacturers

Data acquisition

basic data acquisition signals, 3
of basic six signals, 28–32, 29f, 30f, 31f, 32f
categories, 2–3
defined, 2
four-post rig as alternative to, 106–107
hardware, 6–8, 6f, 7f, 8f (see also sensor technology)
parameters of, 4–5, 5f
for race strategy, 149–152
software requirements, 1, 9–17
data overlay feature, 11–13, 15f
displaying mathematical channels, 11, 14–15
driver knowledge of, 131
exporting data, 14
filtering, 13–14, 15f
general requirements, 9
notes with data files, 10–11, 12–13f, 14f
organization of, 14–17
time/distance data display, 9–10, 9f, 10f
supplemental data acquisition signals, 3–4
synchronizing data, 7
vehicle development and, 3
see also individual names of products and manufacturers
D.A.T.A.S. Ltd., 144
Deceleration, 45, 45f. see also braking; cornering; gearing
Delft University of Technology, 145
Dial-in, 41
Differential pressure sensor, 161f
Displacement sensors, 161
Distance

comparative analysis of, 23, 24, 28
laser sensors, 166–167, 167f
straight-line acceleration, distance vs. time, 39–40, 40f
time and distance plots, 9–10, 9f, 10f
see also simulation tools
Downforce

measuring, 121–122, 121f, 126–128, 127f, 128f
simulation example, 147, 147f, 148f
see also aerodynamics
Downshifting, 54, 55f. see also gearing
Drag

measuring, 121–122, 121f (see also aerodynamics)
simulation example, 147, 147f, 148f
speed and, 34, 40
Drag racing, 40–43, 41f, 42f, 43f
Driving style, 2, 131–140
alarm messages for drivers, 20
braking by, 46, 47, 49, 134–136, 135f, 136f
consistency of, and race strategy, 151–152, 151f, 152f, 152t
consistency of, over multiple laps, 140
cornering and, 136–137, 137f
driving line analysis, 137–138, 138f
GPS for, 139, 139f
video feed for, 139, 140f

178
evaluation of, 3, 132
gear-change analysis and, 136
improving performance and, 131–132, 131f, 132
throttle application and, 132–134, 133f, 133t, 134f
Dynamic pressure, 123–124, 124f. see also aerodynamics
Emissivity, 160
Engine
drag and, 121–122, 121f, 147, 147f, 148f
dynamometers, 33
RPM, logging, 28–29, 29f, 29f
simulation, 141
torque and horsepower, 33–35, 34f
see also aerodynamics; gearing; simulation
tools
Error of the measurement, 156
ET (elapsed time) bracket racing, 41–42
External memory cards, 7

FastLapSim (ProRacingSim), 144
Fey, Buddy, 133
Filtering, 13–14, 15f
Fontdecaba I. Buj, Josep, 97
Fourier, Joseph, 107
Fourier transform, 107–108, 108f
Four-post rig, 106–107
Frequency analysis
defined, 104–107, 105f
modal analysis in, 112–117, 113f, 116f, 117f
nonlinear consideration, 117–118
from sensor data, 118–120, 118f, 119f, 120f
suspension optimization using, 111–112, 112f, 113f
as theoretical analysis, 108–111, 109f, 110f, 111f
time-space analysis vs., 107–108, 107f, 108f
see also cornering; shock absorbers
Friction coefficient, 30
Front roll gradients/angle ratios. See roll stiffness distribution
Fuel
airbox efficiency and, 128–129, 129f
consumption, 149–151, 149f, 150f
Gauge pressure sensor, 161f
Gearing, 2, 51–57
determining correct gear ratios, 56–57, 57f
downshifting, 54, 55f
in drag racing, 42–43, 43f
gear-change analysis of driver, 136
gear chart, 52t, 54–55, 56f
total gear ratio channel, 55–56, 57f
upshifting, 51–53, 51f, 52t, 53f, 54f
G-force, defined, 30
Google Earth™, 139f
GPS, 165–166
hardware integration, 7–8, 8f
Race Technology DLI GPS data logger, 7–8,
7f, 22, 22f, 28, 139, 139f
track mapping and, 27–28, 28f, 139, 139f
Grade effects, 83–85, 84f, 85f
Graphs, reading. See comparative analysis; data acquisition; histograms; time and distance plots; X-Y graphs
Grip, 105
Hairpins, 138
Hall effect geartooth sensor, 163, 163f
Heave
frequency analysis of, 112–117, 113f, 116f, 117f
transfer function and, 117–118, 117f, 118f
wheel loads and, 86–93, 87f, 88f, 89f, 90f, 91f, 93t
Histograms, 10, 13f
shock speed, 99–104, 100f, 100t, 101f, 101t,
102f, 103f
throttle, 63–64, 63f, 65f
Hooke’s law, 164–165
Horsepower, straight-line acceleration and, 33–35, 34f, 35
Hysteresis, 155
Ideal gas law, 122
Inertial track mapping. See track maps
Infrared (IR) technology, 159–160, 160f
Instantaneous variance, 23–24, 23f, 24f

Kinematics
simulation, 141, 142–143, 142f, 143f, 144f
steering angle, 65, 67f
Kurtosis, defined, 103, 103f

Lambda sensors, 165, 165f
Lap markers
comparative analysis of, and segment times, 21–22, 21f, 22f
recording sector times and, 132
in track maps, 27
LapSim (Bosch Motorsport GmbH), 144
Laser distance sensors, 166–167, 167f
Lateral acceleration, 138, 138f
cornering and, 60–63, 60f, 61f, 62f, 63f, 68–69, 69f
lateral g-force channel, defined, 30–31, 31f
logging, 28, 30–31, 31f
in track maps, 27
Linear potentiometers, 162f
Longin, Bert, 73f, 78, 78f
Longitudinal acceleration
cornering and, 60–63, 60f, 61f, 62f, 63f
gearing and, 52–53, 53f, 57f
logging, 28, 31, 31f
longitudinal g
logging, 28, 31, 31f
braking and, 45–46, 45f, 46f
gearing and, 53f, 57f
longitudinal slip ratio, 35–39, 35f, 36f, 37f, 47–48
Low-speed area, 100
LTS (Lap Time Simulation) (Milliken Research Associates, Inc.), 143
Manifold air pressure (MAP) signal, 128–129, 129f
Mathematical channels
color display of, 15
comparative analysis for car’s vitals, 20, 21f
display grouping of, 14–15
software capabilities for, 11
Measurement techniques, 153–167
acceleration sensors, 161–162, 163f
analog-digital conversion, accuracy of, 153–154, 153f
GPS, 7–8, 8f, 22, 22f, 28, 139, 139f, 165–166
laser distance sensors, 166–167, 167f
measurement range, 155
oxygen sensors, 165, 165f
pitot tubes, 123–124, 124f, 165, 165f
pressure sensors, 160–161, 161f
sensor selection and application, 154–155, 155f
speed sensors, 163, 163f
strain gages, 163–165, 164f
temperature sensors, 158–160, 159f, 160f
uncertainty, 155, 156–158, 157f, 158f
see also sensor technology
Mechanical Simulation Corporation, 144
Memory cards, 7
Milliken Research Associates, Inc., 143
Modal analysis
frequency analysis and, 108, 112–117, 113f, 116f, 117f
roll stiffness distribution, 73, 73f, 78, 78f, 79f, 79f
session constant setup sheet, 12–13f
variance, 23–24, 23f, 24f
MSC.ADAMS/Motorsports (MSC Software), 144
Neutral steer, 64–67, 66f, 67f
Nonlinearity
defined, 155
frequency analysis and, 117–118
Notes, for setup, 10–11, 12–13f, 14f
Nyquist-Shannon sampling theorem, 153–154
Offset value, 155
Overlaying
   for comparative analysis, 22–26, 23f, 24f, 25f,
      26f, 131, 137f, 139, 139f
   as software feature, 11–13, 15f
Oversteer, 64–67, 66f, 67f. see also roll stiffness distribution

Pacejka, H.B., 145
Pacejka’s magic formula, 145
Piezoelectric accelerometers, 162, 163f
Piezoresistive pressure sensing element, 161f
PiSim (Pi Research), 143
Pitbox setup, for data analysis, 16–17, 17f
Pitch
   frequency analysis
      mass reduction for, 115–116
      transfer function, 117–118, 117f, 118f
   frequency analysis and, 105, 112–117, 113f,
      116f, 117f
   gradient, 79, 79f (see also roll)
   simulation example, 147, 147f, 148f
   wheel loads, 86–93, 87f, 88f, 89f, 90r, 91f, 93f
Pi Toolbox, 15f, 16f
Pitot tubes, 123–124, 124f, 165, 165f
Potentiometers, 162f
Powershift systems, 53
Pressure measurement
   brake balance, 48–49, 49f
   sensors, 160–161, 161f
ProRacingSim, 144

RaceSim (D.A.T.A.S. Ltd.), 144
Race strategy, 149–152, 149f, 150f, 151f, 152f,
      152r. see also data acquisition
Race Technology
   DL1 GPS data logger, 7–8, 7f, 22, 22f, 28, 139,
      139f
   time slip/time slip rate, 24
Random errors, 156
Rear roll gradients/angle ratios. See roll stiffness distribution
Rebound, 98–104. see also shock absorbers
Red light, 41

Reliability
   comparative analysis and, 19
   importance of, 3
Resistive temperature devices (RTDs), 158, 159,
   159f
Resolution, sensor, 155
Road surface, comparative analysis of, 26, 26f
Robert Bosch GmbH. See Bosch
Roll
   frequency analysis, 105, 112–117, 113f, 116f,
      117f
   mass reduction for, 115–116
   transfer functions for, 117–118, 117f, 118f
   simulation example, 147, 147f, 148f
   wheel loads, 86–93, 87f, 88f, 89f, 90r, 91f, 93t
Roll stiffness distribution, 2, 71–79
   pitch gradient, 79, 79f
   roll angle ratio
      front and rear, 76–77, 77f, 77t, 157, 157f
      as setup tool, 78, 78f
   roll gradients
      front and rear, 71–74, 71f, 72t, 73f, 73t, 74f,
         157, 157f
      as setup tool, 74–76, 74f
   suspension troubleshooting, 78, 79f
   see also chassis
Rotary potentiometers, 162f
RPM. See gearing

SAE
   J1263 standard, 126
   Vehicle Axis System, 30, 30f, 73
Safety, 3, 19
Sampling frequencies, 153–154
Satellite technology. See GPS
Sensitivity ratio, 155
Sensor technology, 2, 153–167
   acceleration, 161–162, 163f
   frequency analysis from, 118–120, 118f, 119f,
      120f
   laser distance, 166–167, 167f
   oxygen, 165, 165f
   pressure, 160–161, 161f
   selection and application, 154–155, 155f
   sensor prep, 15
   speed, 163, 163f

INDEX 181
temperature, 158–160, 159f, 160f
wheel loads measurement and, 93
see also measurement techniques; individual
names of products and manufacturers
Sera-CD, 144
Setup notes, 10–11, 12–13t, 14f
Shift duration, 52–53, 54f. see also gearing
Shifting point, 51–52, 51f, 52t, 53f. see also gearing
Shock absorbers, 2, 97–120
damping analysis and, 97–99, 97f, 98f, 99t
frequency analysis and, 104–120
shock speed histogram, 99–104, 100f, 100t,
101f, 101t, 102, 102f, 103f
see also cornering; frequency analysis
Signal variations, 11f
Simulation tools, 2, 3, 141–142, 141–148
Computational Fluid Dynamics (CFD), 141
engine simulation, 141
lap time simulation, 143–145, 144f
simulated example, 145–148, 147f, 148f
suspension kinematics simulation, 141,
142–143, 142f, 143f, 144f
vehicle dynamics simulation, 141–142, 141f
Skewness, defined, 103, 103f
Smoothing, 13–14, 15f
Software. See data acquisition
Speed
aerodynamic drag and, 34, 40
data display, 9–10, 9f, 10f
data overlays for, 11–13, 15f
effects of, on cornering, 62–63
logging, 28, 29, 29f
sensors, 163, 163f
of wheels
RPM vs., 56f
in simulation example, 147, 147f, 148f
in track maps, 27
see also braking; gearing
STACK Ltd., 6–8, 6f
Standard deviation, defined, 102–103
Standard uncertainty, 157
Statistical bias, 156
Steady-state cornering, 98–99
Steady-state weight transfer, 93–94, 95f
Steering
Ackermann steering angle, 65, 67f
angle, logging, 28, 30, 30f
cornering and, 64–67, 66f, 67f, 69f
driving style and, 136–137, 137f
steering wheel angle gradient, 65, 67f
see also roll stiffness distribution
Straight-line acceleration, 2, 33–43
ABS/TCS and slip ratios, 38–39, 38f, 39f
corner exiting speed, 40, 41f
drag racing and, 40–43, 41f, 42f, 43f
time vs. distance, 39–40, 40f
torque and horsepower, 33–35, 34f
traction and longitudinal slip, 35–38, 35f, 36f, 37f
see also gearing
Strain gages, 163–165, 164f
Suspension, 25
kinematics simulation, 141, 142–143, 142f,
143f, 144f
logging, 32, 32f
measuring wheel loads with suspension cells,
93–94, 93f, 95f
optimization using frequency analysis,
111–112, 112f, 113f
troubleshooting, 78, 79f
see also frequency analysis; roll stiffness distribution; shock absorbers
SusProg3D (software package), 71, 72f
Temperature
aerodynamics and, 122–123, 123f
sensors, 158–160, 159f, 160f
Thermisters, 159, 159f
Thermocouple temperature sensors, 158–159, 158f
Throttle
blipping, 54, 55f, 56f
driver application, 132–134, 133f, 133t, 134f
histogram, 63–64, 63f, 65f, 133
position of, logging, 28, 30, 30f
see also acceleration
Time
comparative analysis of, 23
lap time simulation, 143–145, 144f
plots, data display, 9–10, 9f, 10f
straight-line acceleration, distance vs. time,
39–40, 40f
time-space analysis, 107–108, 107f, 108f
see also simulation tools
Time and distance plots, 9–10, 9f, 10f
Time slip/time slip rate, 24
Tires
cornering and, 66
damping analysis and, 104–107, 105f
frequency analysis and, 118–120, 118f, 119f, 120f
lap time simulation and, 143–145
pressure and aerodynamics, 126
spring rates, 87, 94, 126
tire drag, 33
traction and straight-line acceleration, 35–38, 35f, 36f, 37f
wear of, and race strategy, 151–152, 151f, 152f

see also damping rate; downforce; frequency analysis; roll stiffness distribution; shock absorbers; wheel loads

Tolerance, 155, 156–158, 157f, 158f

Top Fuel drag racing, 42, 42f

Torque, straight-line acceleration and, 33–35, 34f

Total gear ratio channel, 55–56, 57f. see also gearing

Track maps, 7–8, 8f
GPS and, 27–28, 28f
inertial track mapping, 26–27, 27f

Traction, straight-line acceleration and, 35–38, 35f, 36f, 37f
Traction circle
cornering and, 60–63, 60f, 61f, 62f, 63f
defined, 136
Transfer function
frequency analysis, 110–112, 110f, 111f, 112f
measurement, 154–155, 155f

Uncertainty, 155, 156–158, 157f, 158f

Understeer, 64–67, 66f, 67f. see also roll stiffness distribution

Upshifting, 51–53, 51f, 52t, 53f, 54f. see also gearing
USB cables, 7

Variance, 23–24, 23f, 24f, 102–103

Vehicle dynamics simulation, 141–142, 141f. see also simulation tools

Video images
driving line analysis using, 139, 140f
synchronizing with audio and data, 7

Virtual beacons. See lap markers

Wallinder, Magnus, 37f

Warp
frequency analysis, 105, 112–117, 113f, 116f, 117f
dynamic nature of, 115, 116–117
transfer function, 118, 118f
wheel loads, 86–93, 87f, 88f, 89f, 90f, 91f, 93t

Water vapor pressure, 122–123, 123f

Weather
aerodynamics and, 122–123, 122f, 123f
elapsed time and, 41–42

Weight transfer, 105
lateral, 81–83, 81f, 82f, 95f
longitudinal, 83, 95f
steady-state, 93–94, 95f

see also frequency analysis; wheel loads

Wheel loads, 2, 81–95
aerodynamic downforce and, 126–128, 127f, 128f
banking and grade effects, 83–85, 84f, 85f
calculating total of, 85–86, 85f, 85t, 87t
chassis torsion and, 94–95, 95f
lateral weight transfer and, 81–83, 81f, 82f, 95f
longitudinal weight transfer and, 83, 95f
measuring, with suspension load cells, 93–94, 93f, 95f
modal analysis for, 86–93, 87f, 88f, 89f, 90f, 91f, 93t
tire spring rates and, 94

see also cornering; frequency analysis; shock absorbers

Wheel mass, 108–111, 109f, 110f, 111f

Wheel speed
RPM vs., 56f
in simulation example, 147, 147f, 148f
in track maps, 27

X-Y graphs, 10, 11f
for gear charts, 55, 56f
for roll stiffness distribution, 73, 73f
for traction circle, 60, 60f, 62f

Yaw rate, 68, 68f, 69
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In 2001, Mr. Segers became the youngest team manager ever in an FIA organized championship. At GLPK Carsport, he is still responsible for the team’s activities and the FIA GT Championship. Subsequently, he has been working for other teams such as Henrik Roos Motorsports (FIA GT), Racing for Holland (Le Mans 24 Hours), and Carsport Modena.

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