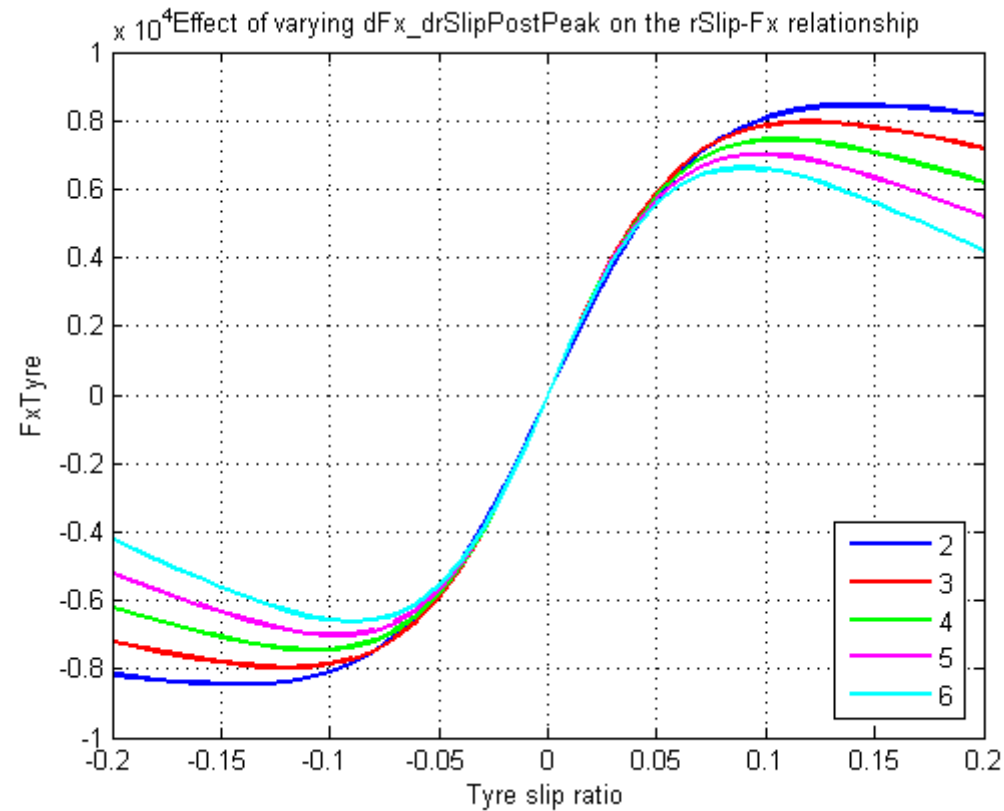


Grip Loss With Slip

At either high or low slip values the force generated by the tyres will decrease with increasing slip. The rate of this decrease is controlled by the parameters **dFx_drSlipPostPeak** and **dFy_daSlipPostPeak**. The figure below shows the effect of varying one of these parameters.



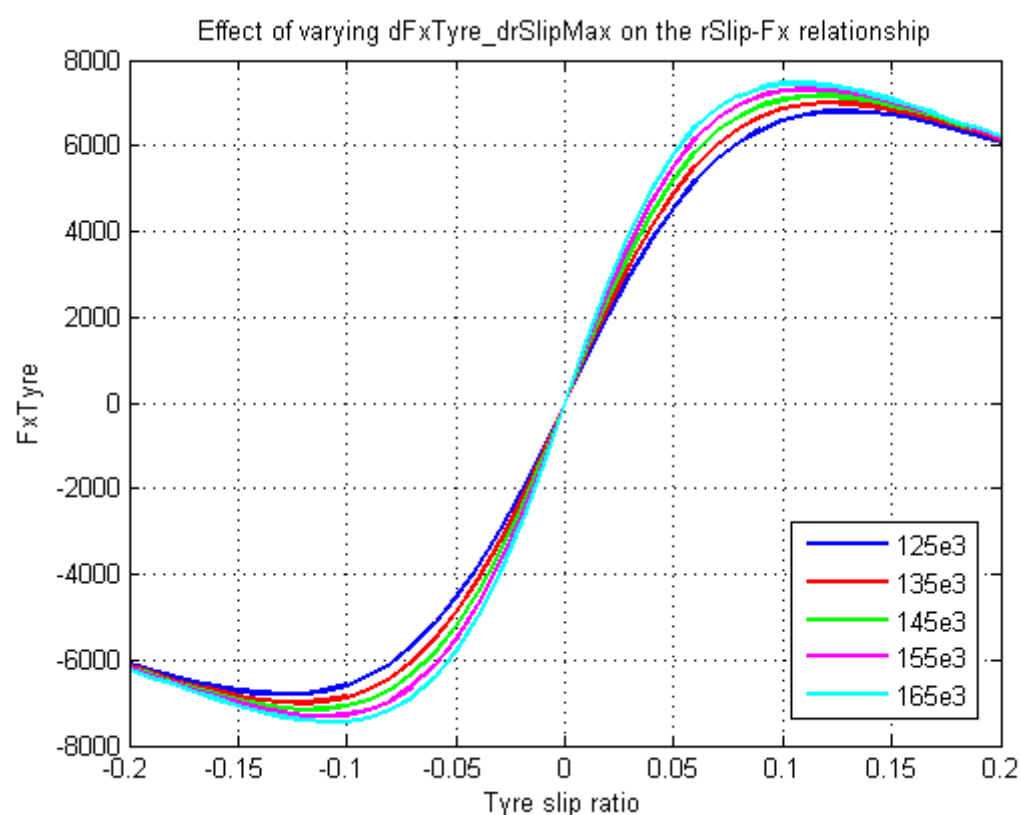
Cornering Stiffness and Stiffness Shaping

In the low slip operating region the relationship between lateral and longitudinal force is approximately linear with slip. The gradient of this relationship is known as the *cornering stiffness*, and is itself a function of FzTyre. For each direction (lateral and longitudinal), three parameters control the stiffness:

1. **dFyTyre_daSlipMax**: the maximum achievable cornering stiffness.
2. **FzTyreMaxStiffness**: the value of FzTyre at which the maximum cornering stiffness is achieved.
3. **rStiffnessShaping**: a parameter controlling the way the tyre stiffness varies through the rest of the Fz range. A low value of this parameter implies a very slow variation of linear stiffness with Fz, while a high value implies a faster variation. Care should be taken

with this parameter to avoid dramatic roll-off of the force generating ability at high values of slip.

The figure below shows the effect of varying the key linear stiffness parameter in isolation.



Fz-Mu Degradation

As tyre forces increases so the effective coefficient of friction tends to decrease. The parameter **drMuv dFzTvre** and **drMux dFzTvre**

