



Vibracoustic GmbH & Co KG

Vehicle Dynamics 07. Mai 2008

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Leitung Systementwicklung und Prüffeld

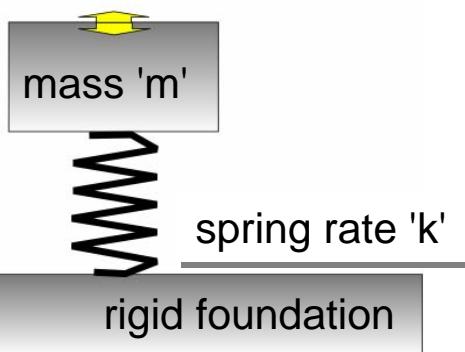
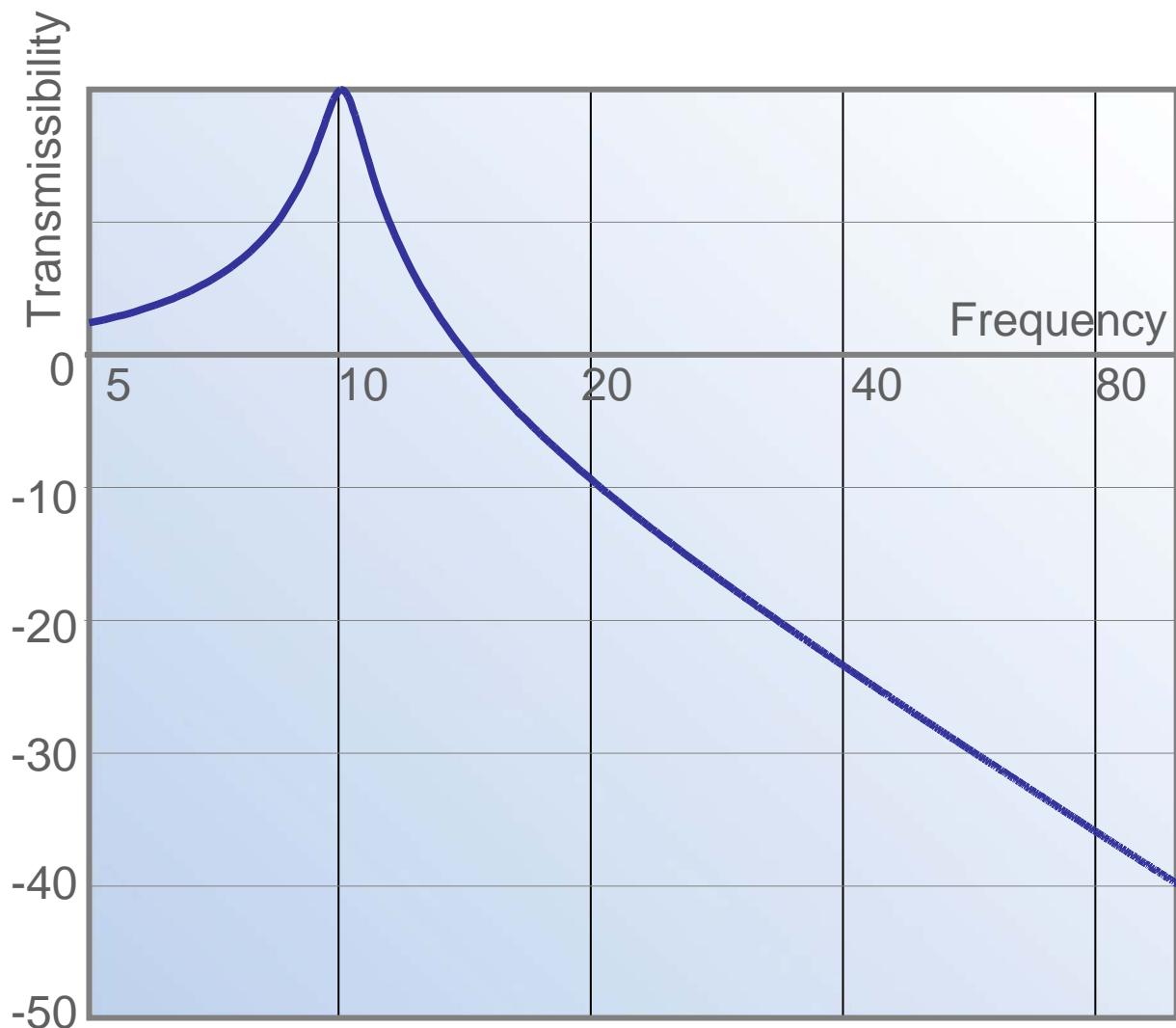


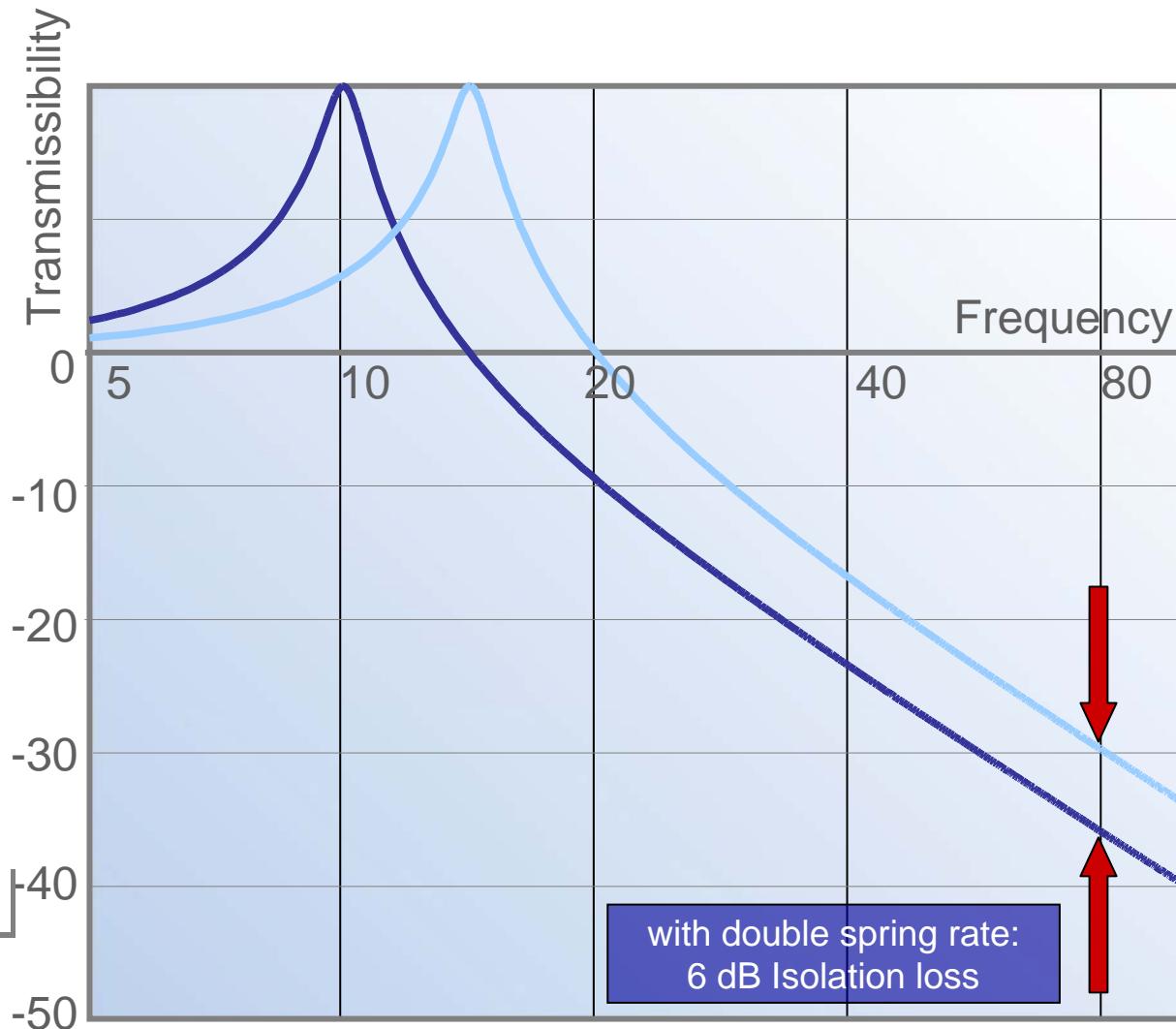
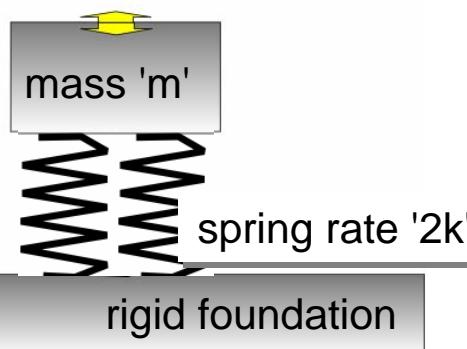
**We convert noise and vibration
into sound and comfort**

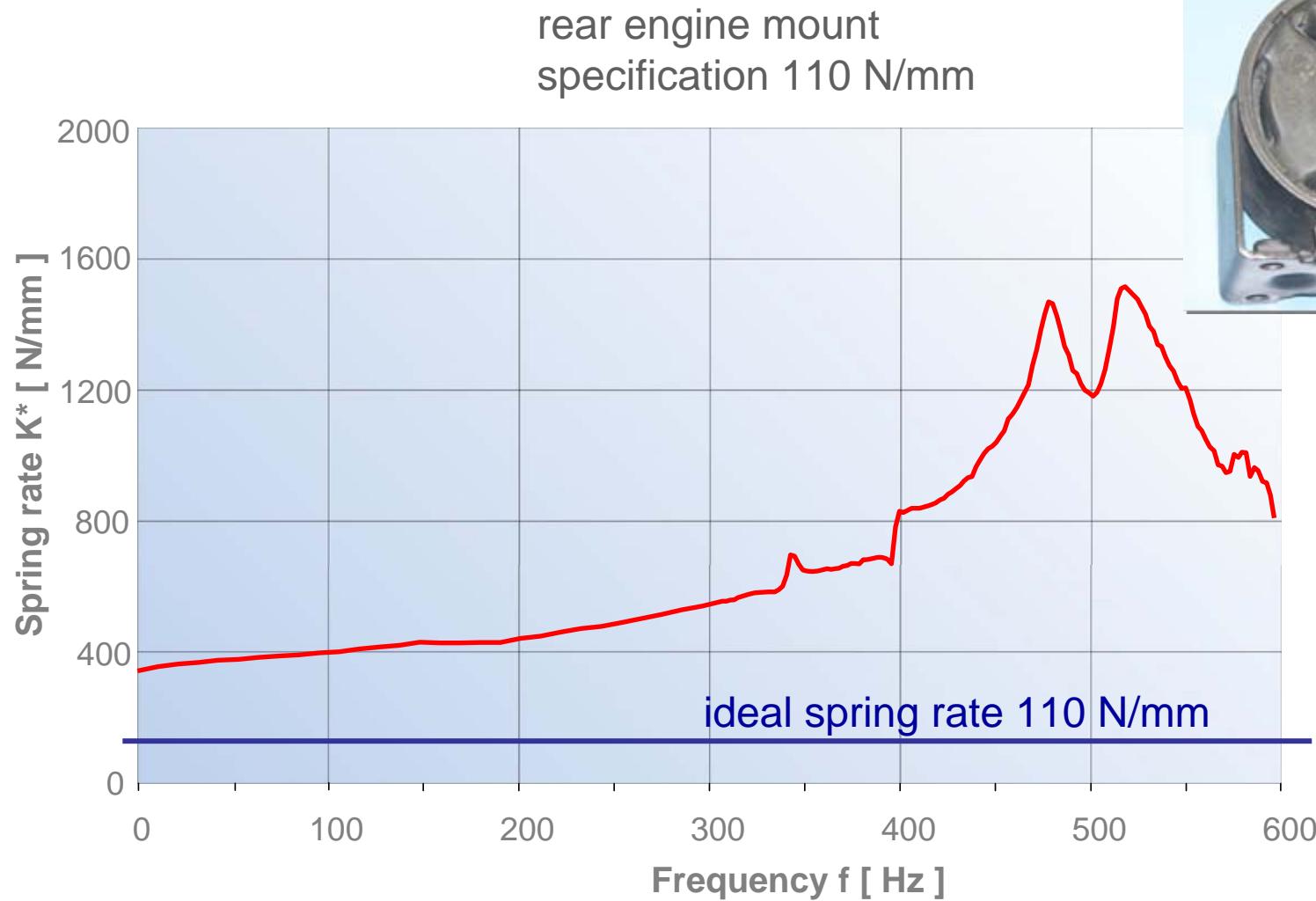
The challenge: isolation better than physics allow ?!



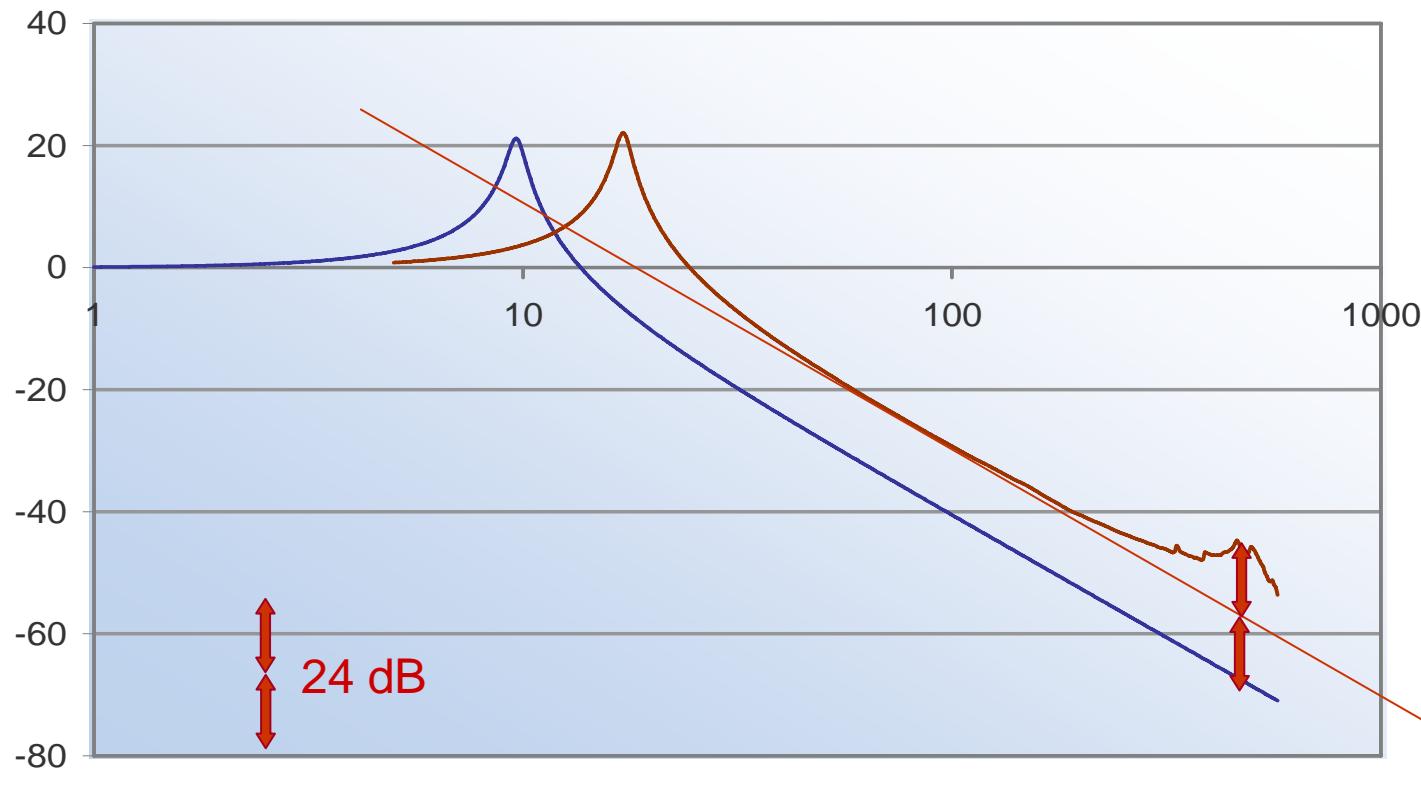
The transmissibility of a spring-mass system



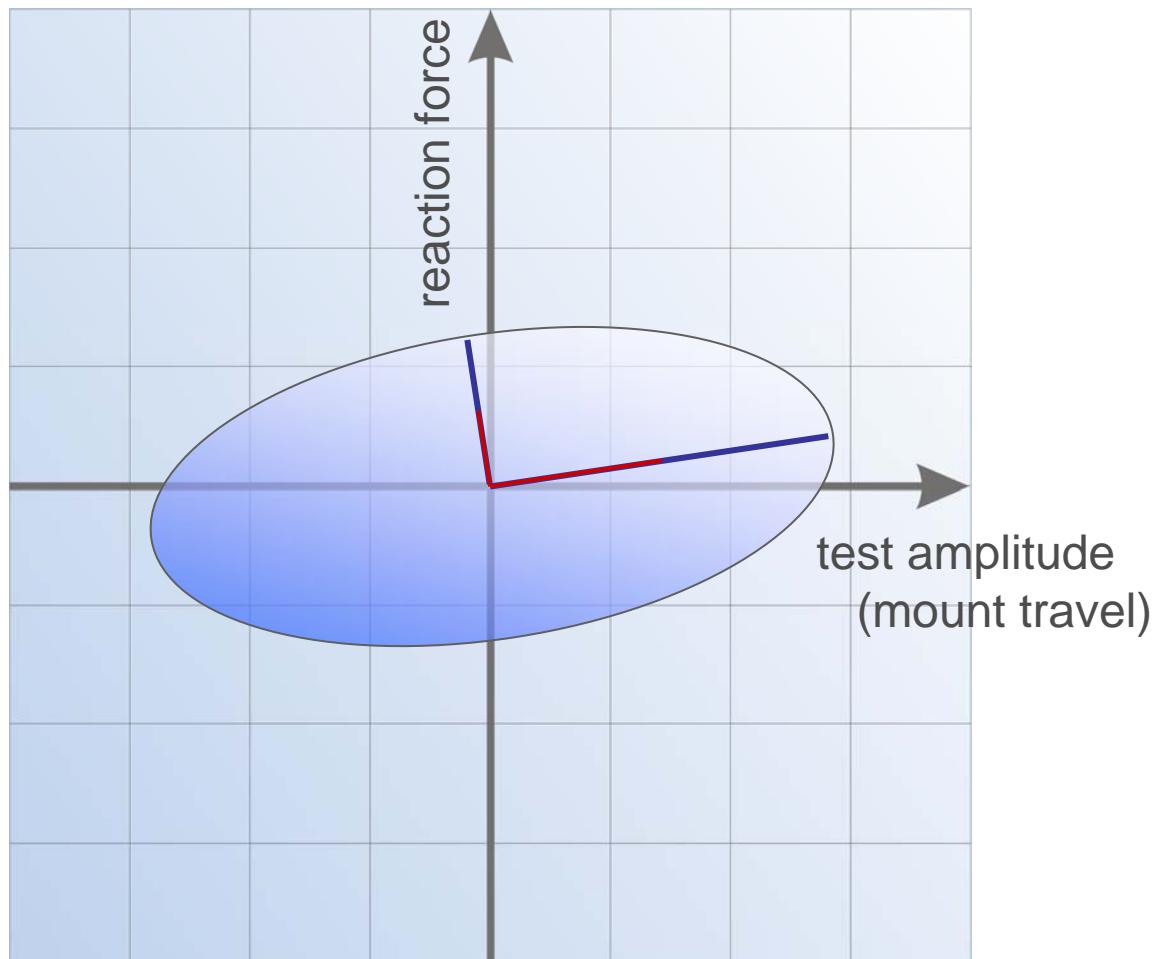




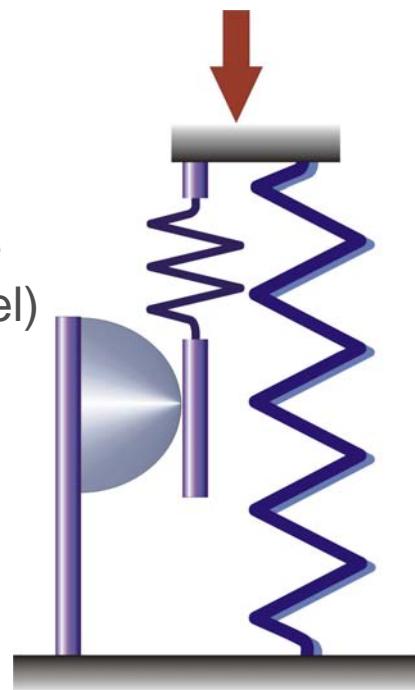
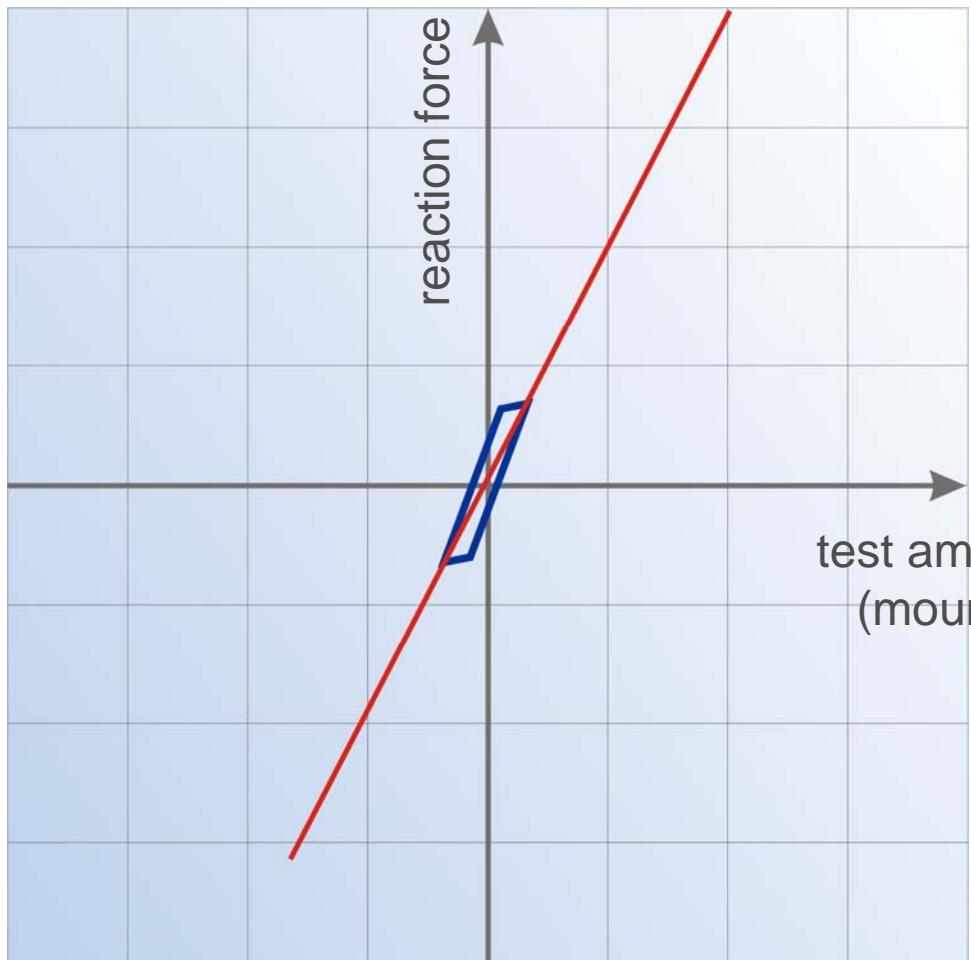
Transmissibility of the Golf mount



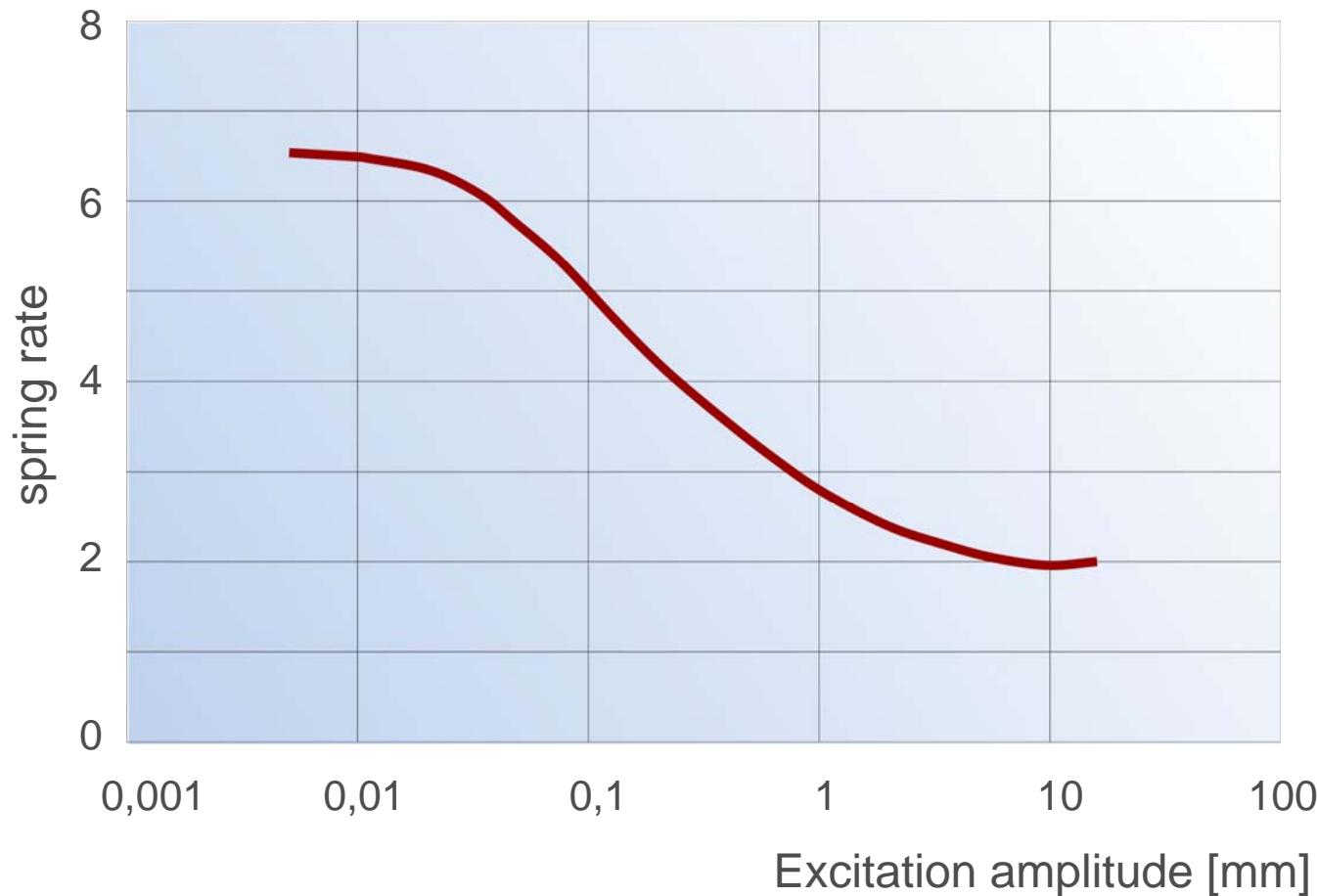
Damping or friction? A significant difference !



Spring characteristic and friction



Amplitude sweep of a standard compound



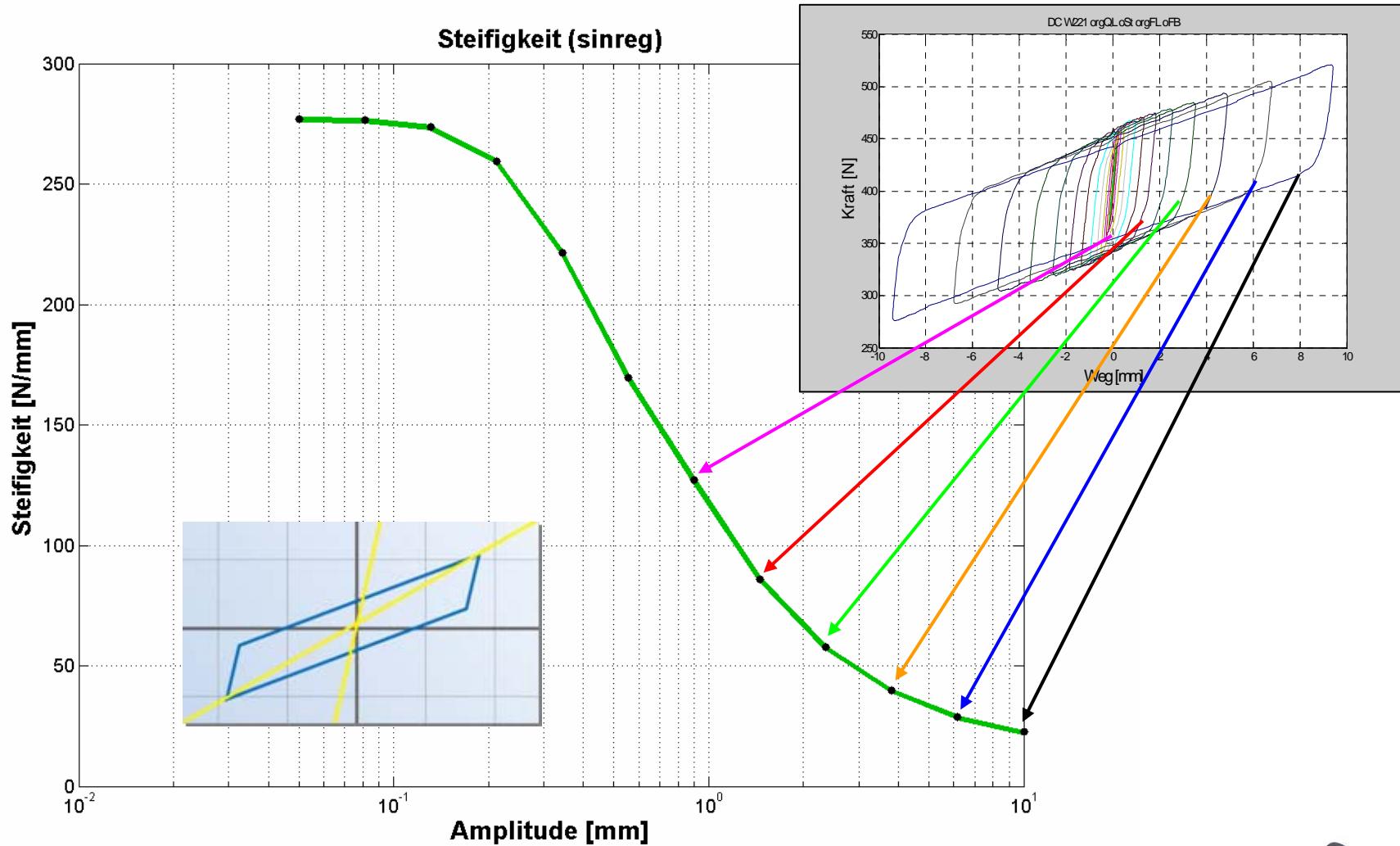
Improving ride comfort requires compreh. axle knowledge



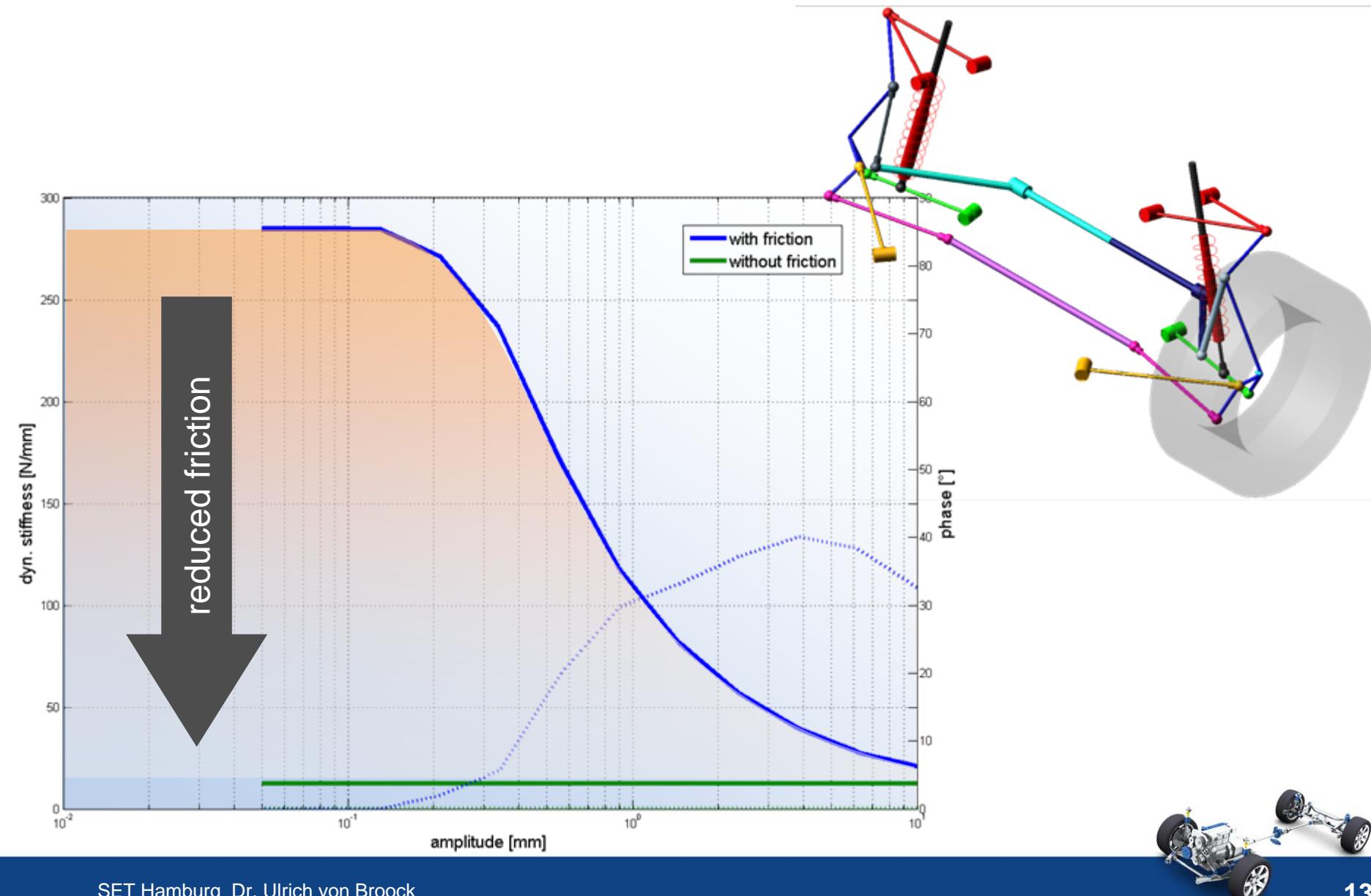
VC's axle rig, second generation



From hysteresis loop to the amplitude sweep



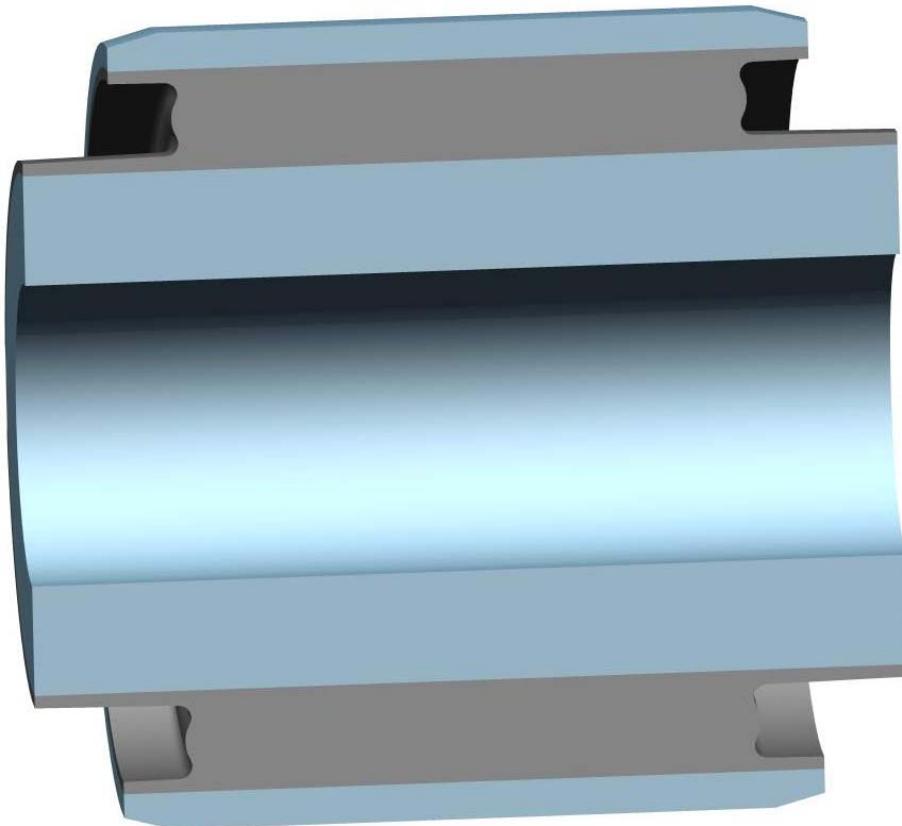
From part to system – friction in suspension systems



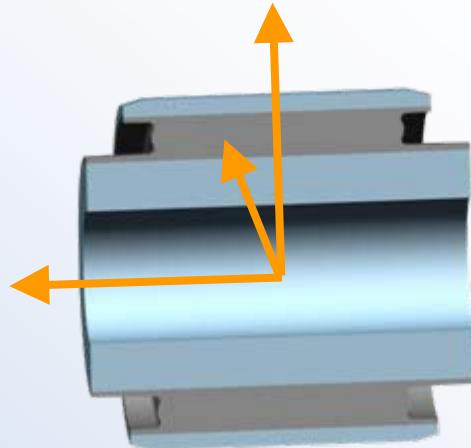
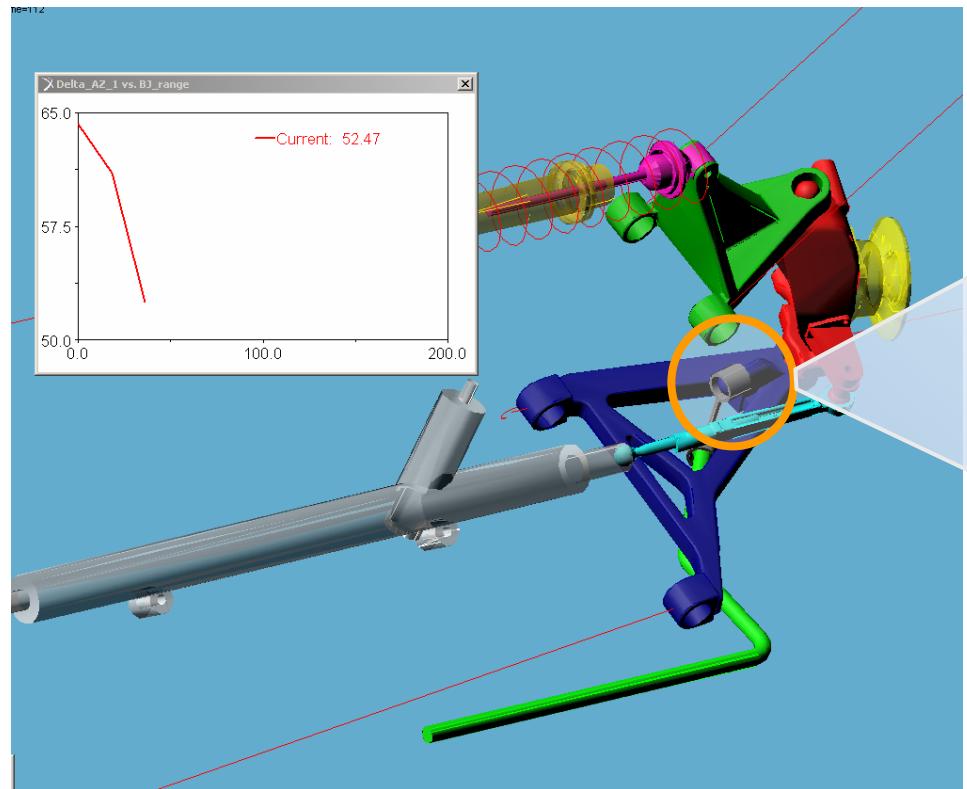
New bush design: as small as possible!

vibracoustic 

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Kinematics of ball joints



Orientation of ball joint replacement is calculated in order to minimize cardanic movements.

Early projects with first generation air springs



Borgward
P100



MB
W100
W110

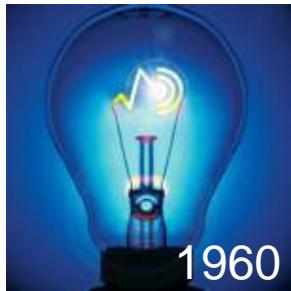


MB
W108
W109



1964

1967



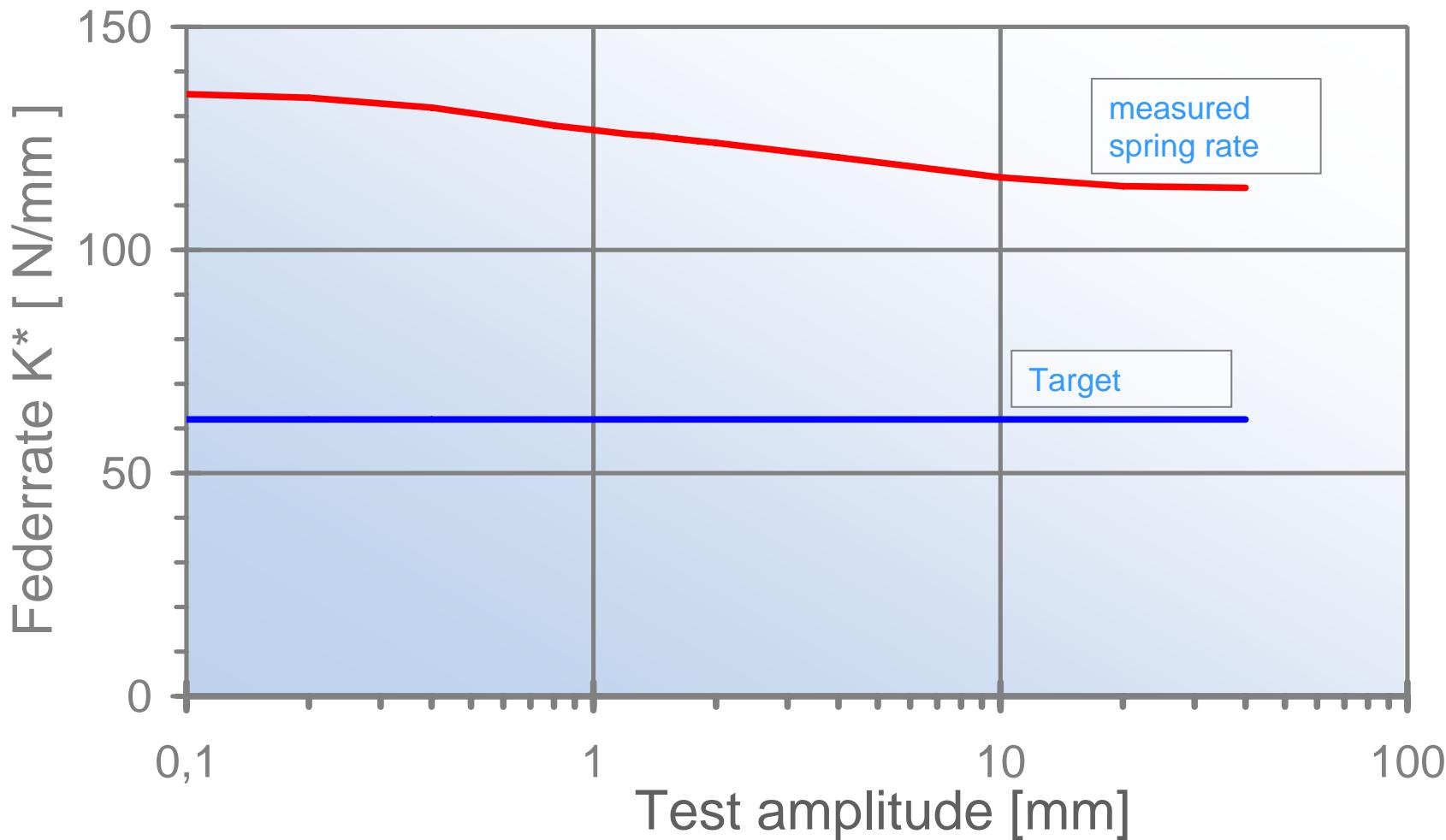
1960



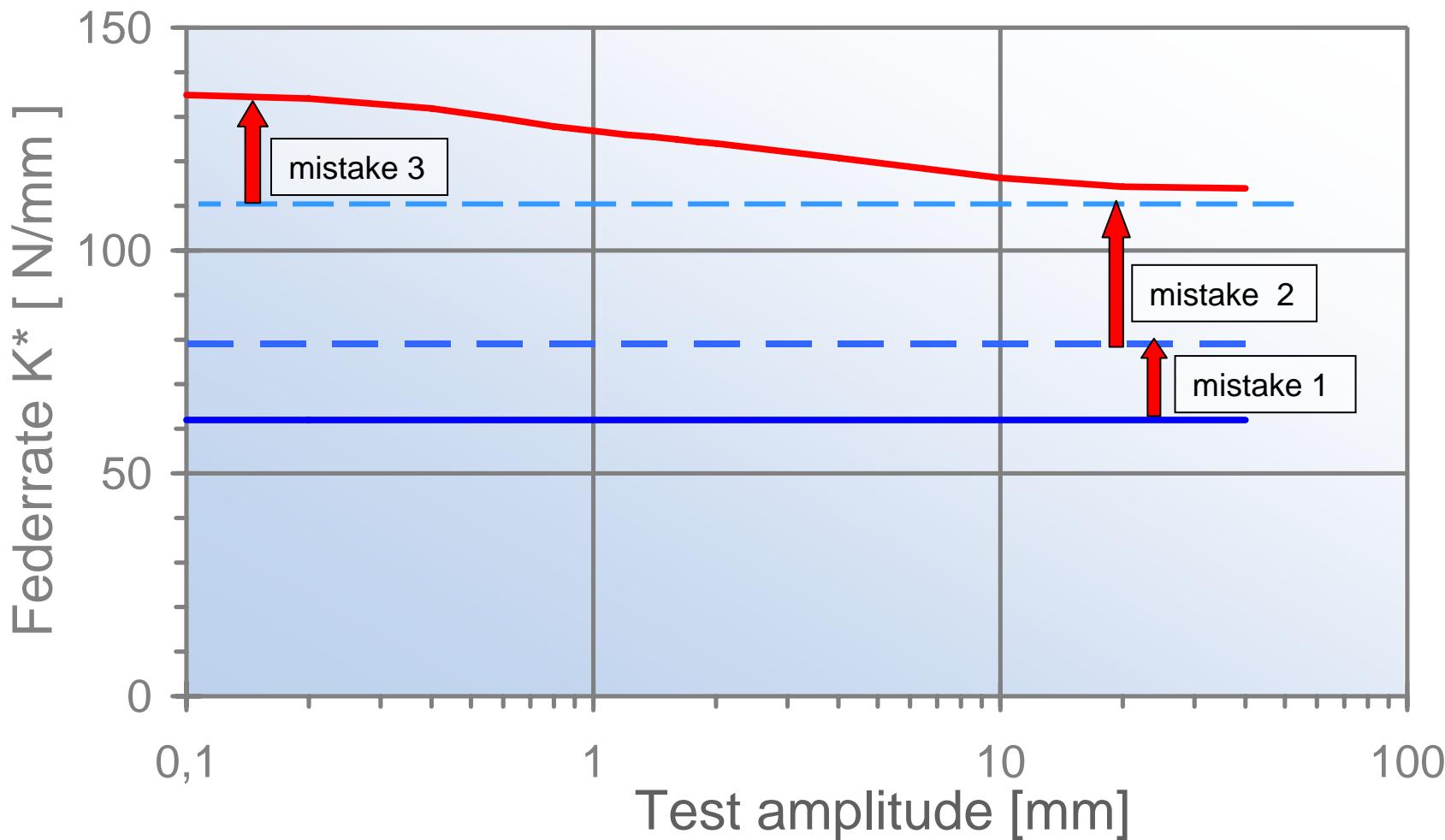
No air springs
in passenger cars
for more than
30 years

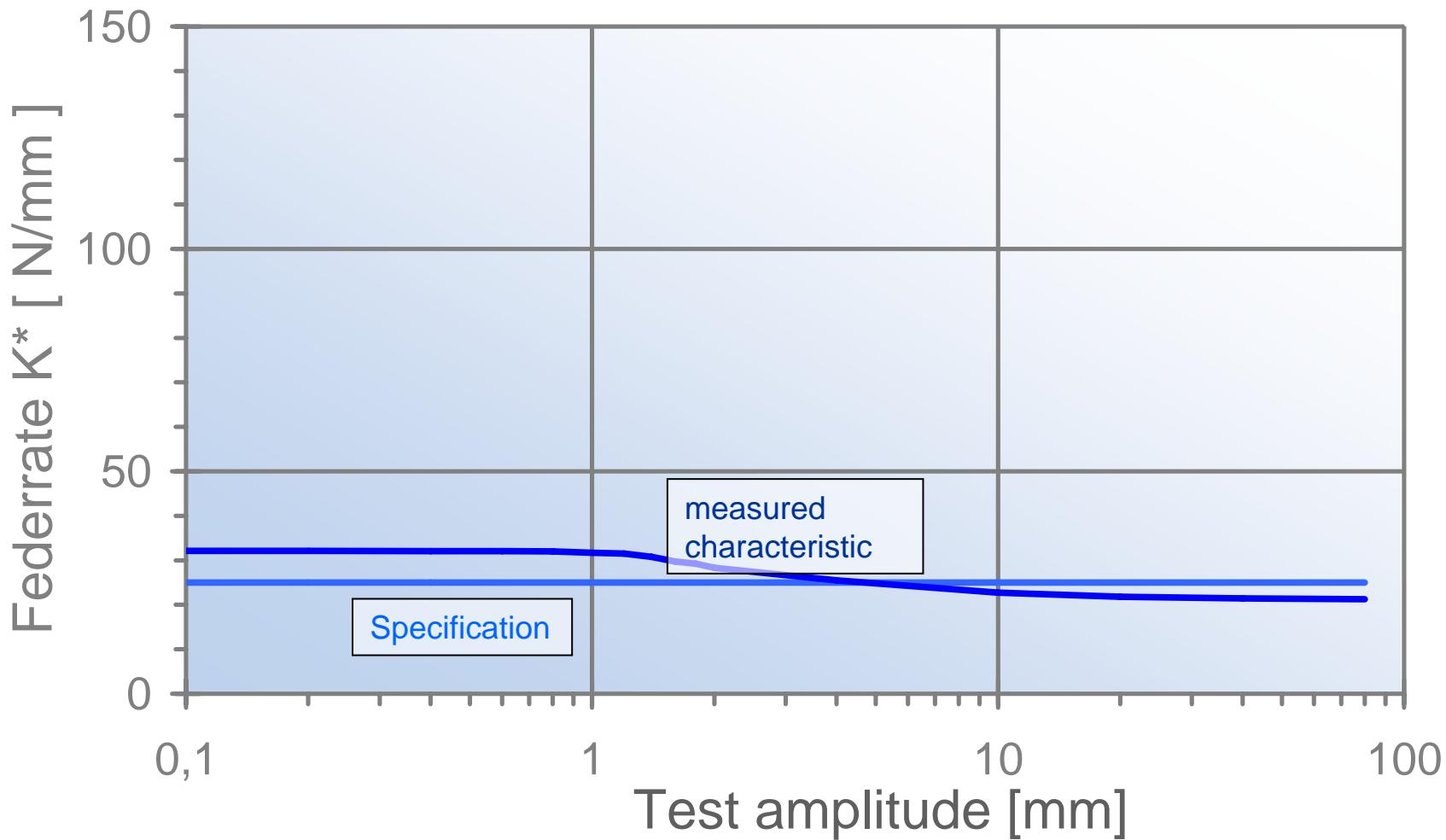


Air spring characteristic: target and reality



Three different mistakes caused the difference

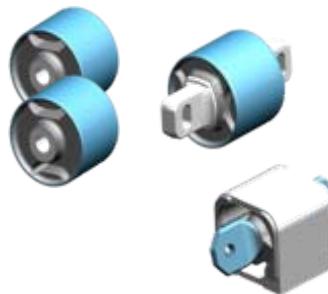




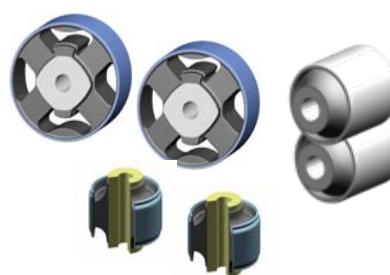
The VC – technology is the key for prestigious projects, ...



Bugatti Veyron



Audi R8



?????
(still confidential)



.... supports in second step future high volume projects and

TATA Nano
the vehicle for a new market



VW Golf5



Ford Focus



production volume Nr. 1 in Europe

production volume Nr. 1 in the world



..... supports the successful introduction of the thin wall air sleeve

RR 01



Jaguar X350



BMW X5



DC W221



PSA Picasso



DC W211



Audi A6



DC W220



1998

Accuracy
of manufact.

2001

switchable
spring rate

2005

addition
compliance mount

