

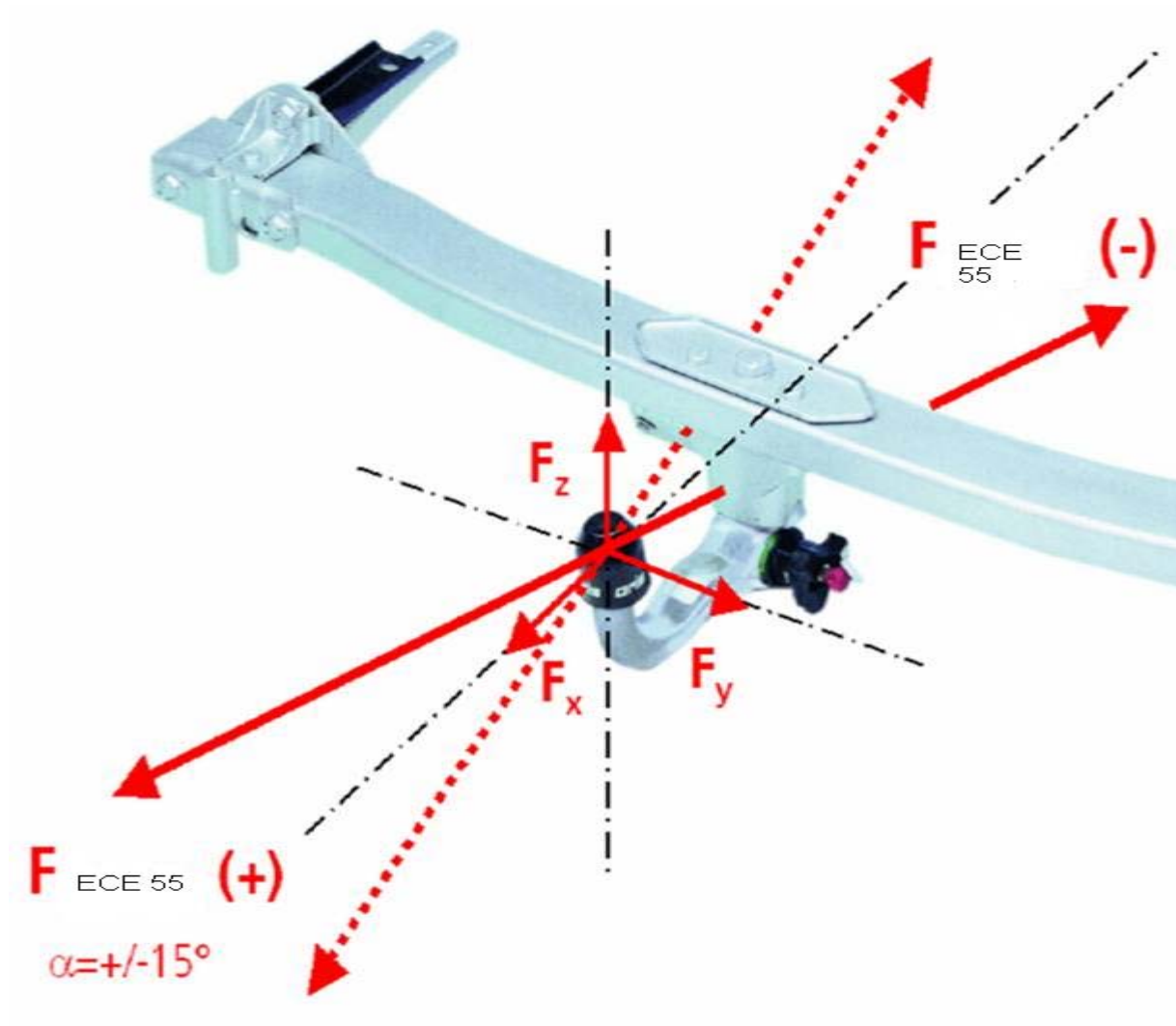
Presentation of the working group „GRRF ECE R55“

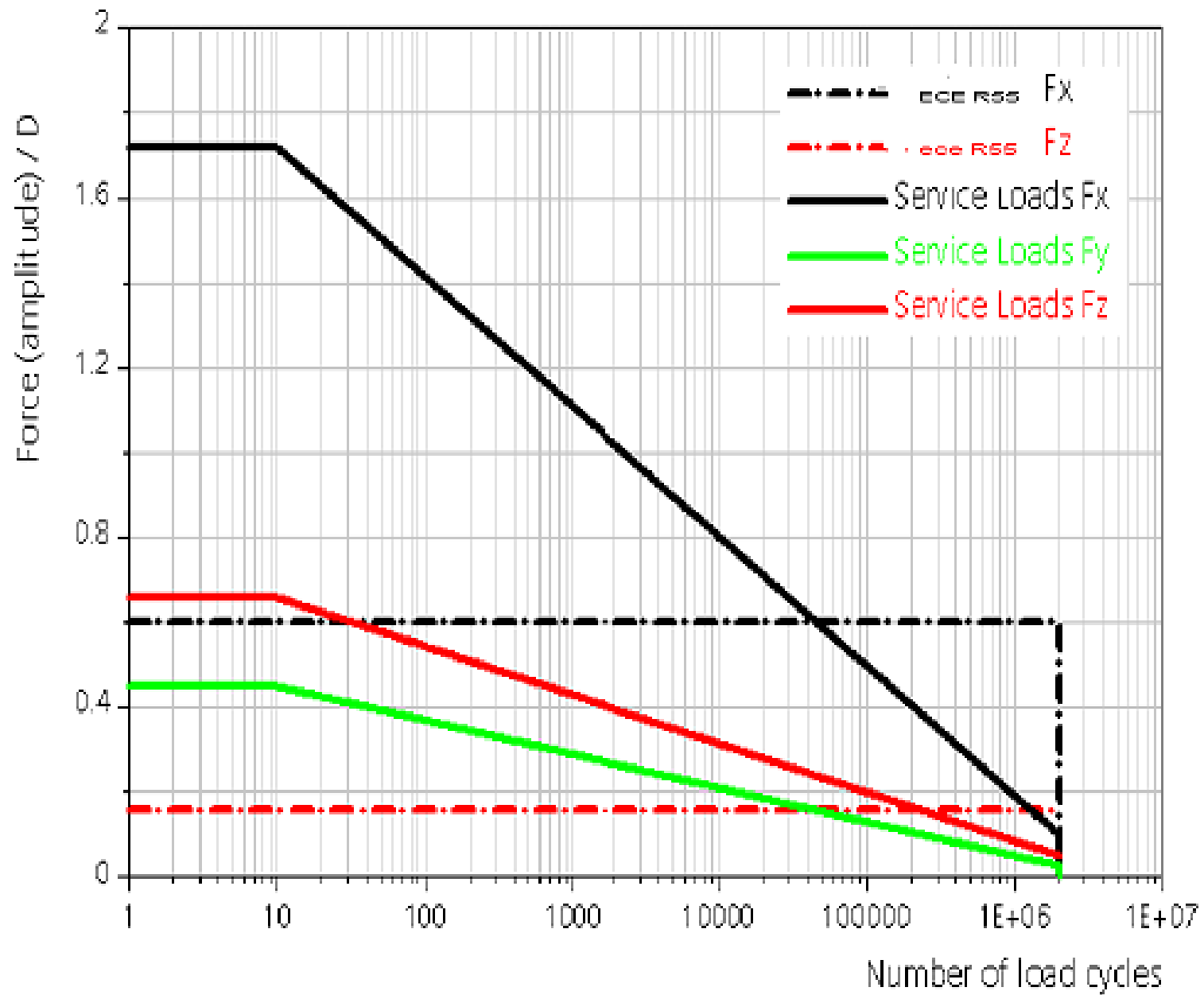
Situation of september
2007

Structure of the presentation:

- Summary of presentation to GRRF January 2006
- Agreements of Working group „ECE R55“
- Remaining working items first of presenting the proposal to GRRF
- Items initially excluded from the proposal

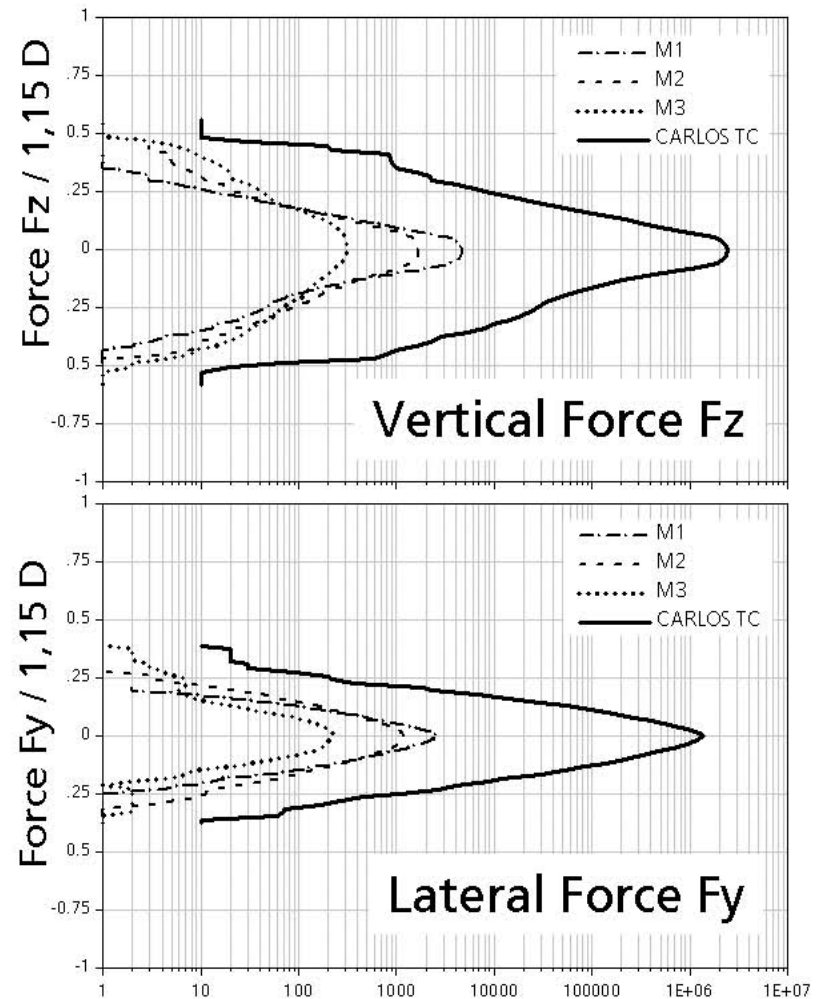
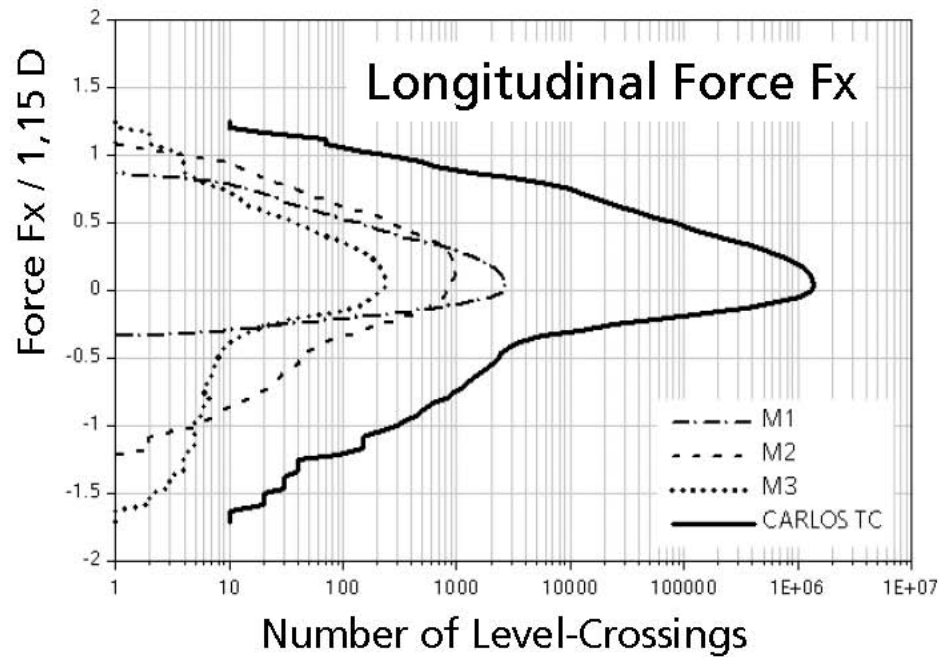
Summary of presentation to GRRF in January 2006





Proposal CARLOS TC:

– Level-Crossing Histograms for Longitudinal-, Lateral- and Vertical Load

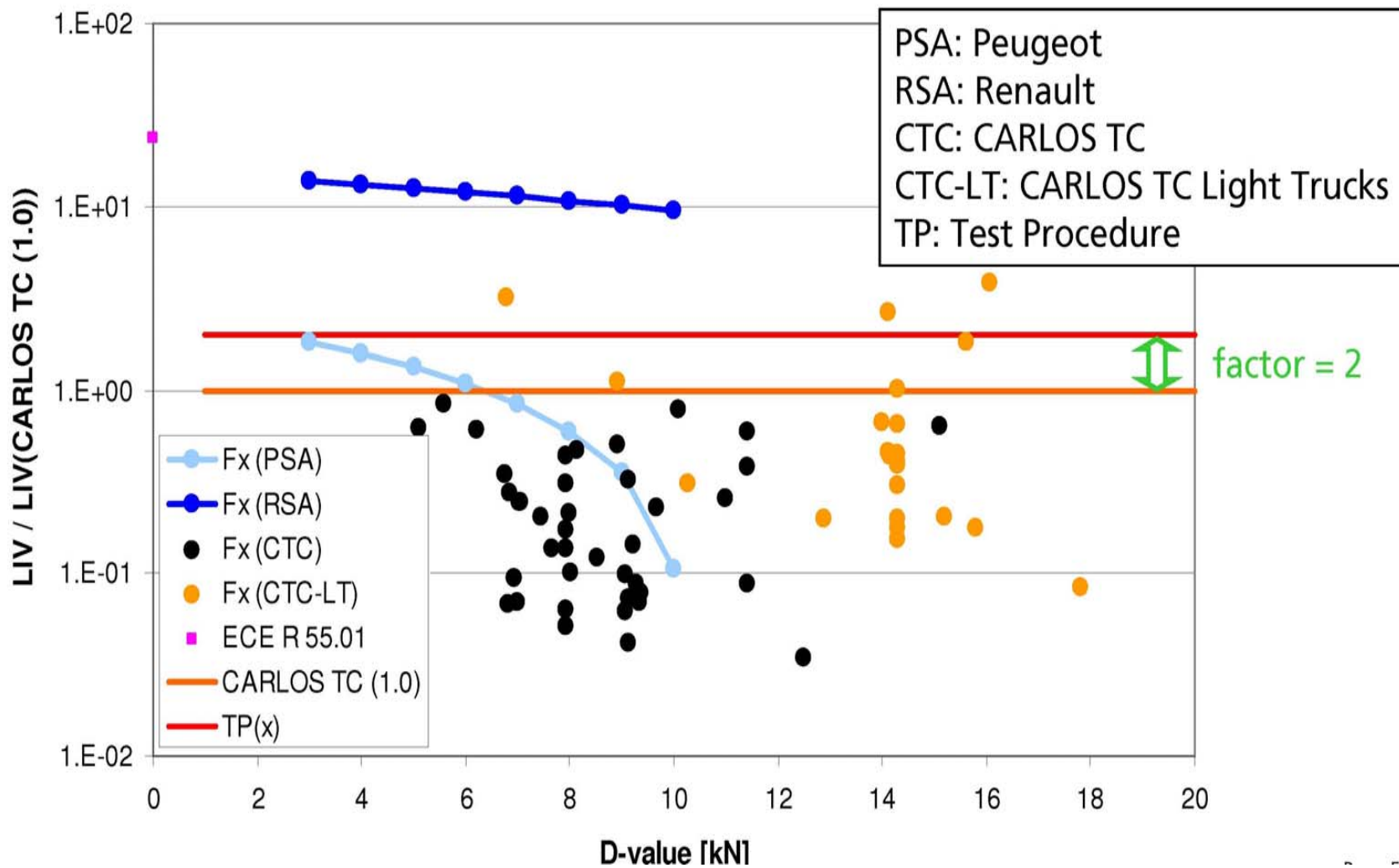


Agreements of the working group

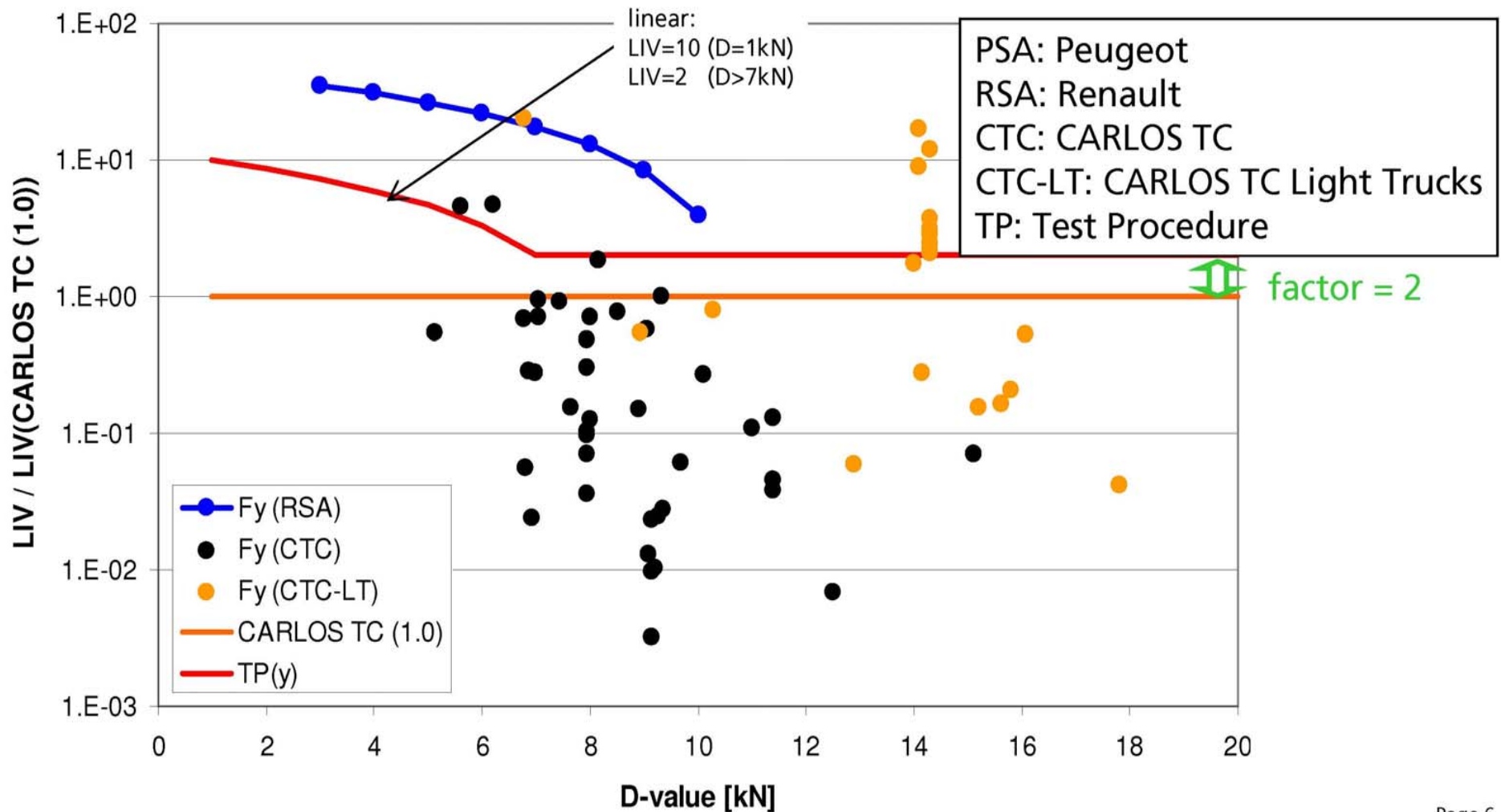
Including last meeting in May 2007

The working group agreed on
Load Intensity Values (LIV) related to D-values
(see red lines on the next 3 pages)

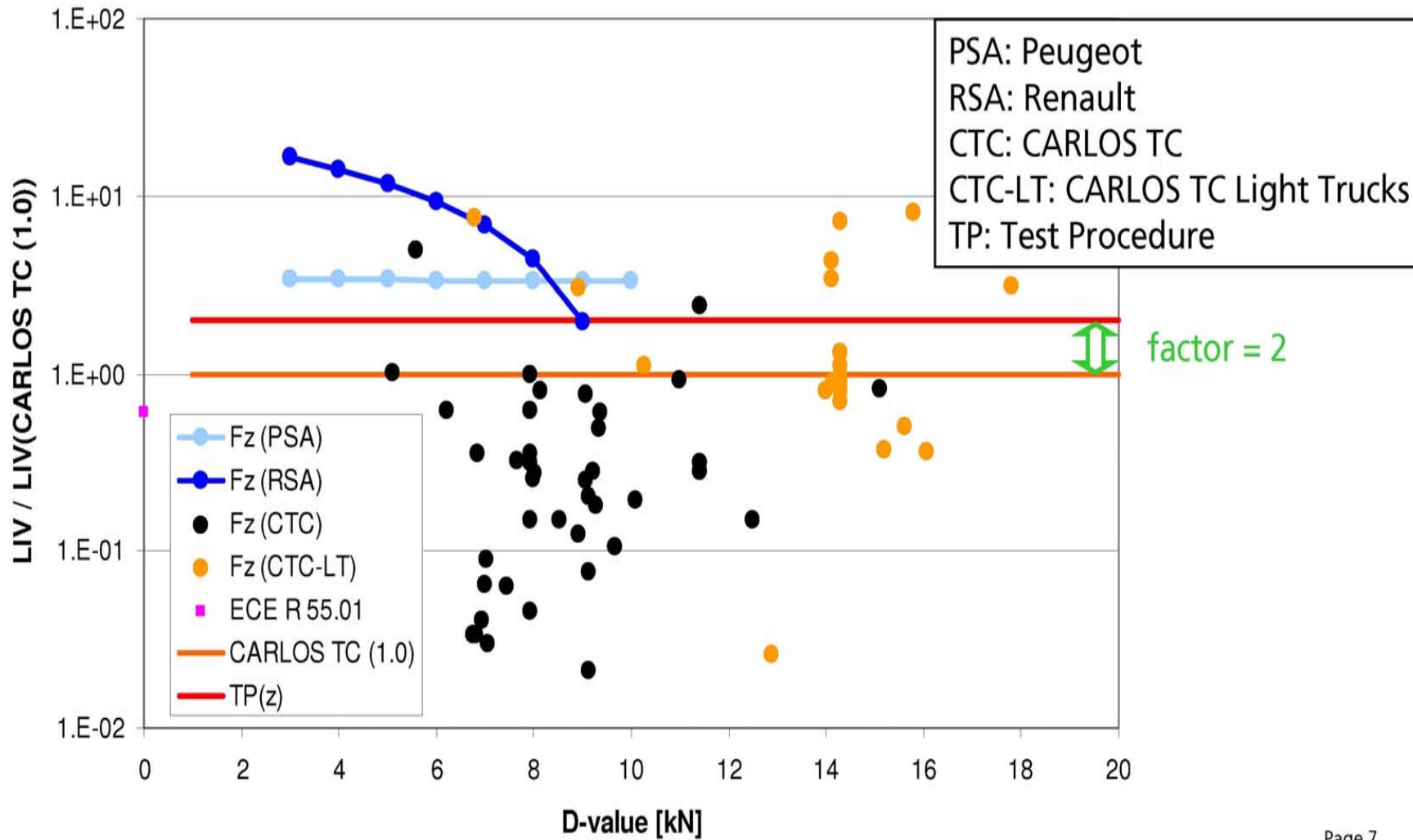
Comparison of Load Intensity Values (LIV) Longitudinal Direction x



Comparison of Load Intensity Values (LIV) Lateral Direction y



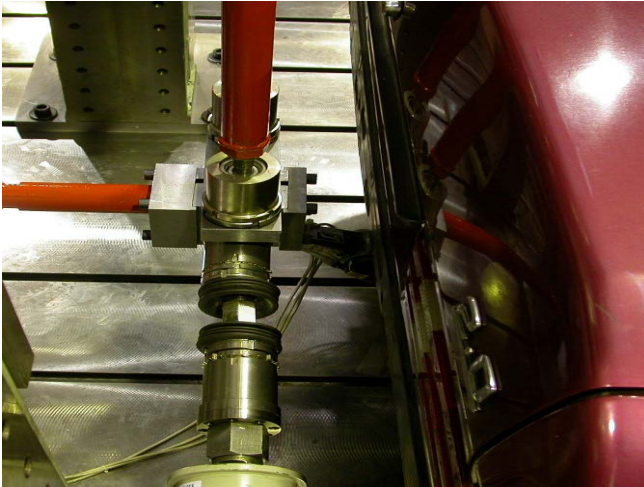
Comparison of Load Intensity Values (LIV) Vertical Direction z



Remaining working items first of presenting the proposal to GRRF

- Should the test be performed on rigid test bench or on vehicle or both permitted?
- How to distribute the test control data.
- Is the phase-relationship of the test forces necessary?
- What are the requirements on a test laboratory?
- What are the failure criteria?

Should the test be performed on rigid test bench
or on vehicle or both permitted?



The opinion of the working group in tendency is to
just test on a rigid test bench, tests on vehicles
should be allowed.

The forces to apply during the 3-dimension will build a load spectrum.

The working group still has to elaborate:

How can the necessary test control data of the load spectrum be published?

For example ASCII code on GRRF-website?

The working group still has to verify,
if in reality the phase-relationship of the
forces in all 3 dimensions is important

Proposal

Additional Directions for LIV Calculation

$$F_{xy} = F_x * \cos(\alpha) + F_y * \cos(\beta)$$

$$F_{xz} = F_x * \cos(\alpha) + F_z * \cos(\gamma)$$

$$F_{yz} = F_y * \cos(\beta) + F_z * \cos(\gamma)$$

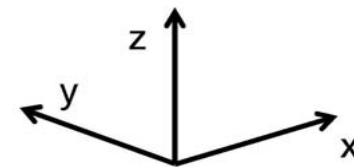
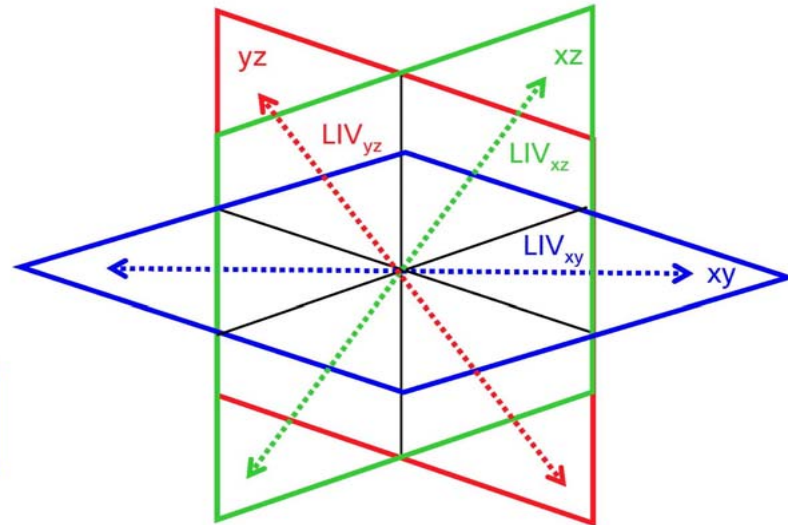
with $\alpha = \beta = \gamma = 45^\circ$; $n, m = \{x, y, z\}$:

$$F_{xy} = F_{xz} = F_{yz} = 2^{-0.5} * (F_n + F_m)$$

$$F_{xyz} = F_{xy} * \cos(35.3^\circ) + F_z * \cos(54.7^\circ)$$

additional evaluation values to be defined:

LIV_{xy} , LIV_{xz} , LIV_{yz} , LIV_{xyz}



In the case this supplement LIV directions /
relations are validated to be necessary,
the procedure must respect the phase-
relationship
of the force-applications
in every direction.

What are the requirements on the test benches, the test bench control and on the documentation ?

Failure criteria (crack indication, funktion)
as described in ECE R55.01 are not sufficient

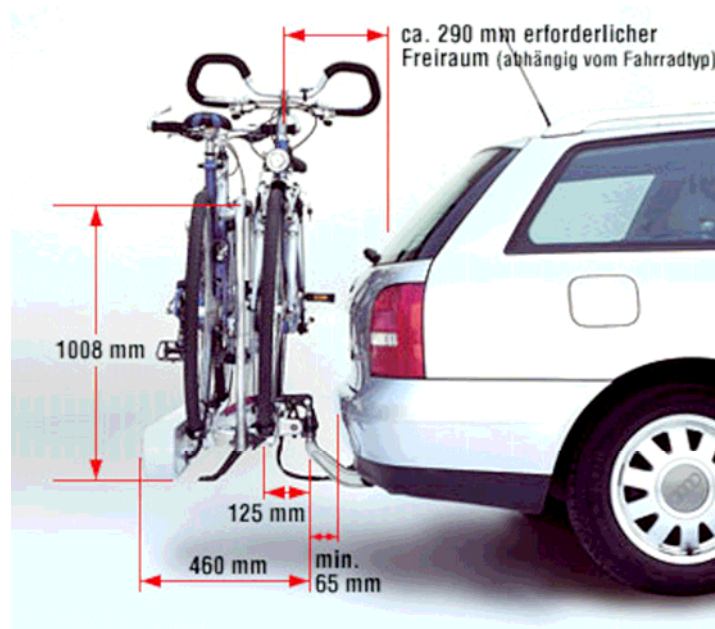
Additional failure criteria (for example
play/clearance)
are to define by the working group!

Items initially excluded from the proposal

Following Considerations will not be included into relating amendment to ECE R55 for the first time, but in a later amendment with collected gaining experience

Application on Light duty trucks, Bicycle – and Load carriers

actually excluded from the proposal



Coupling devices made of other materials than steel as Light Alloy or Composite

actually excluded from the proposal



The verification of Miss-use / overloads / impacts

additional forces caused by stabilizers and else

actually excluded from the proposal

The working group will need more sessions
as previewed,
a modified TOR will be presented to
next GRRF

Thank You for attention