



FlexPLI

Pre- and Post-Test Procedure

6th Meeting of Informal Group GTR9 Phase 2
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Oliver Zander

Bundesanstalt für Straßenwesen

Dirk-Uwe Gehring

Peter Leßmann

BGS Böhme & Gehring GmbH

Bundesanstalt für Straßenwesen

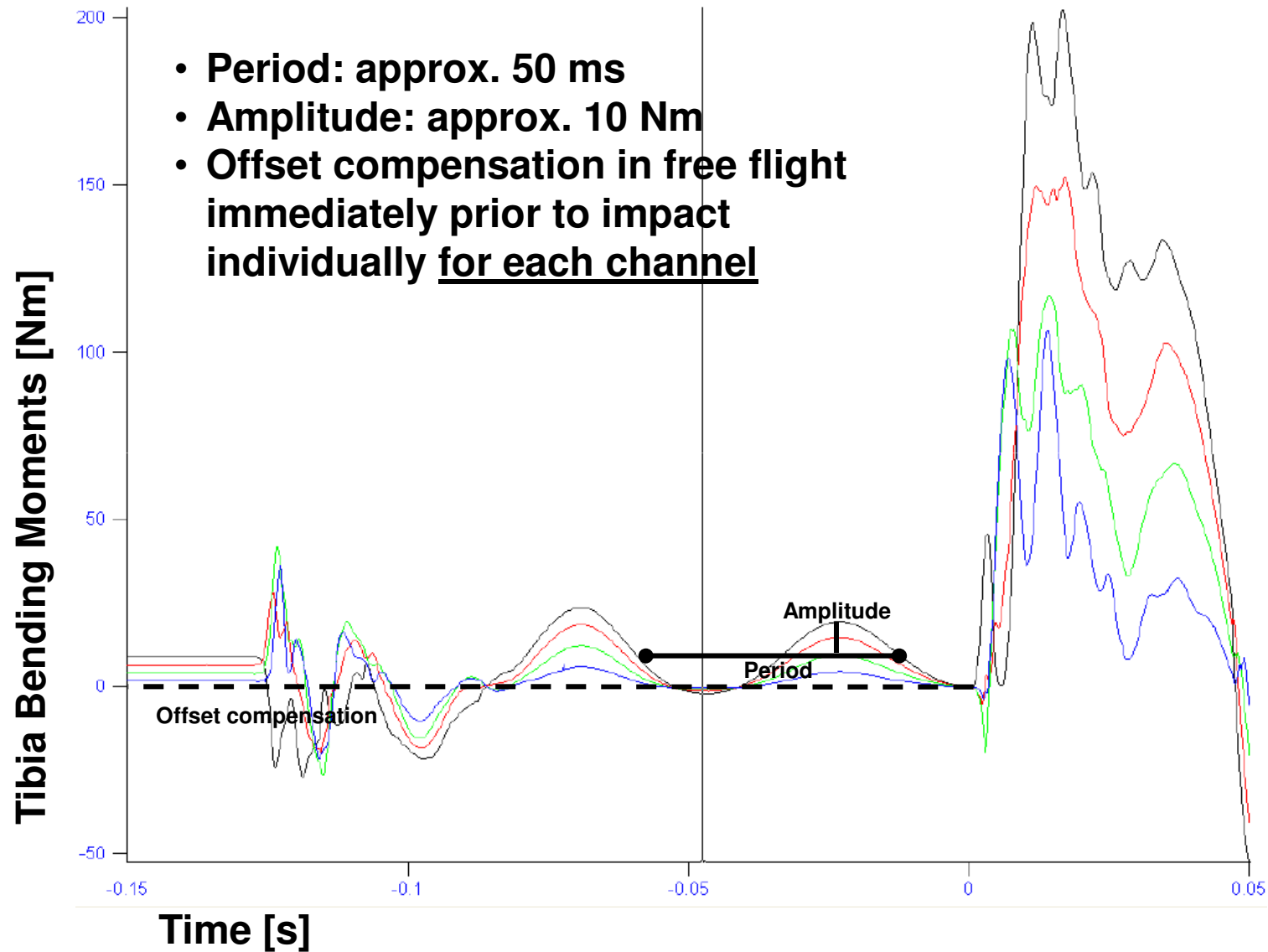
(Federal Highway Research Institute)

Background



- **Variance in terms of vibrations of the FlexPLI prior to the impact has been detected in vehicle tests.**
- **The vibrations differ between different legform impactors and/or different test labs.**
- **To ensure a satisfactory repeatability and reproducibility of test results, the vibrations in the pre-impact phase should stay within a narrow but feasible corridor.**
- **To further guarantee identical post-test procedures and reliable test results, the offset compensation should be handled equally in all test laboratories.**

Example



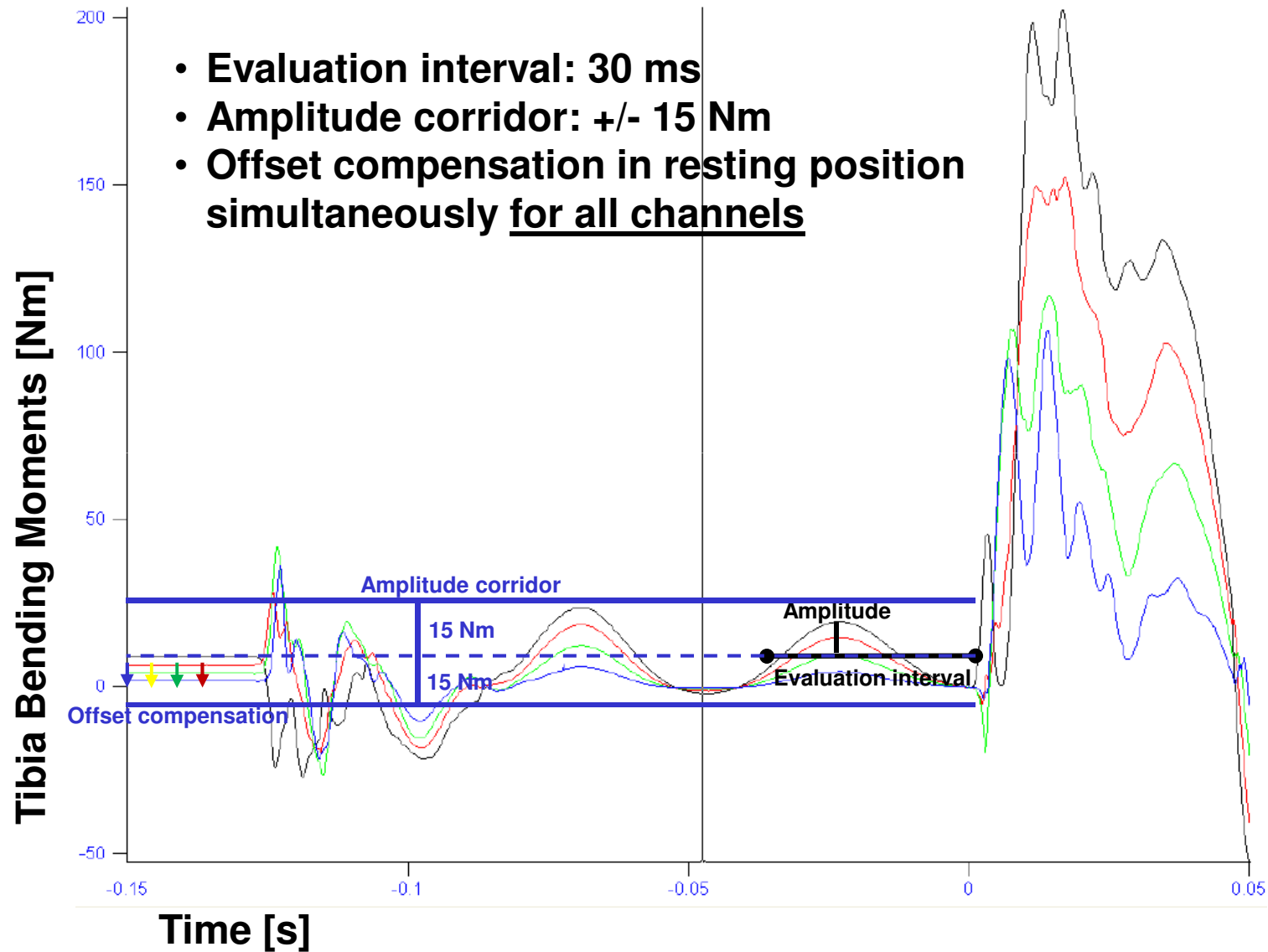
- **Several time history curves of vehicle impacts with different Flex PLI legforms were analyzed.**
- **The vibrations of the legforms during the free flight have a period length of approx. 50 ms**
=> To ensure to cover at least one – positive or negative – maximum, a time interval of 30 ms before impact is necessary.
- **In almost all cases the vibrations of the legform immediately before impact were less than 30 Nm measured from negative to positive amplitude.**
=> A limitation to ± 15 Nm is feasible
- **An offset compensation at time of first contact seems not appropriate.**

Recommendation




- 1. The bending moments shall be +/- 15 Nm within an evaluation interval of 30 ms immediately prior to impact**
- 2. The offset compensation shall be done with the FlexPLI impactor in resting position prior to the test / acceleration phase**

Example



GTR9-5-29

United Nations ECE/TRANS/WP.29/GRSP/52-## (DRAFT-ver.121206)



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Global technical regulation No. 9 (Pedestrian safety) – Phase 2
of the global technical regulation

Proposal for Amendment 2 (DRAFT-ver.121206)

Submitted by the chairperson of informal working group on Global technical regulation No. 9 (Pedestrian safety)-Phase 2*

The text reproduced below was prepared by the chairperson of informal working group on Global technical regulation No.9 (Pedestrian safety)-Phase 2 proposing the use of the flexible pedestrian lower legform impactor in the Global technical regulation No. 9 (pedestrian safety) Phase 2. It supersedes ECE/TRANS/180/Add.9. The modifications to the current text of gtr No. 9 on pedestrian safety are marked in bold for new or strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2010-2014 (ECE/TRANS/206, para. 106 and ECE/TRANS/2010/3, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

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7.1.1.5 The tibia bending moments shall be +/- 15 Nm within an evaluation interval of 30 ms immediately prior to impact.

7.1.1.6 The offset compensation shall be done with the FlexPLI impactor in resting position prior to the test / acceleration phase.



Thank you !