DYNAmore GmbH
Industriestr. 2
D-70565 Stuttgart
Germany

DYNAmore GmbH
Gesellschaft für FEM Ingenieurdienstleistungen

DYNAmore is dedicated to support engineers in solving nonlinear mechanical as well as multiphysical problems numerically. Our product portfolio includes the finite element solver LS-DYNA, the pre- and post-processor LS-PrePost and the optimization software LS-OPT as well as numerous finite element models needed for crash worthiness simulation (dummies, barriers, pedestrian and human models, ...). Our main field of activity is to sell, teach, support, and co-develop the software LS-DYNA and LS-OPT. In addition, we provide engineering services for numerical analysis and integrate simulation software in your CAE environment.

Our advanced training offer includes classical seminars, workshops, webinars, support and information days as well as LS-DYNA user conferences. More detailed information can also be found on our support and tutorial websites: www.dynasupport.com and www.dynaexamples.com.

We are one of the first addresses for pilot studies and development projects with respect to the simulation of nonlinear dynamic problems. We are always at your disposal to answer your questions on specific application as well as test licenses.

You will find DYNAmore in Stuttgart, Dresden, Ingolstadt, Berlin, Langlingen, Zurich (CH), Linköping (S), Gothenburg (S) and Turin (I).

Organization

Date
10 - 11 March 2015, 9:00 - 17:00

Fee
950 Euro plus VAT, 50 % discount for universities.
Students free of charge, provided there are vacancies.

Language
English

Location
DYNAmore GmbH
Industriestr. 2, D-70565 Stuttgart, Germany
Tel. +49 (0)711 - 459600 - 0

Registration
Please use the registration form or register online at:
www.dynamore.de/verbtechnik-e.

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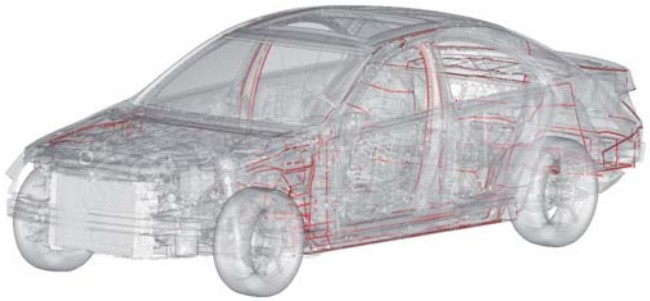
Invitation to the seminar

Joining Techniques for Crash Analysis with LS-DYNA

10 - 11 March in Stuttgart, Germany



Courtesy of Daimler AG

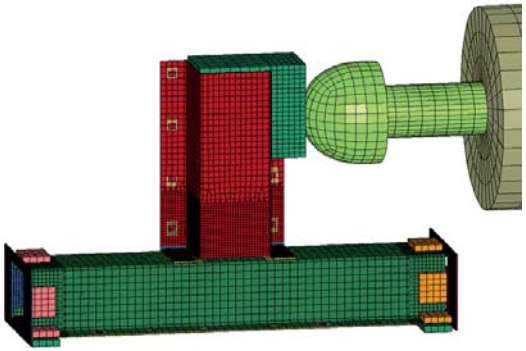
Lecturers

Dr. Markus Feucht, Daimler AG
Dr. Tobias Graf, DYNAmore GmbH
Dr. André Haufe, DYNAmore GmbH

INVITATION

Joining Techniques for Crash Analysis with LS-DYNA

In this seminar you will gain insight into the possibilities to model and simulate component connections in LS-DYNA. The most frequently used connections, such as adhesive bonding, bolt fastening, welding, spot-weld adhesive bonding or riveting, each require a specific structural and material model for numerical simulation. For this reason, we will thoroughly discuss the load carrying action of the individual connections as well as their structural stability and demonstrate possible modeling approaches (in conjunction with flange models).



Courtesy of F. Burbulla (Dr. Ing. h.c. F. Porsche AG), A. Matzenmiller (University Kassel), LS-DYNA Forum 2013

Currently used models will be discussed and the reliability of the obtained results is critically reviewed with particular emphasis on scenarios that include connection failure. Especially for welded and bolted connections, most recent LS-DYNA releases now include a large number of new features and improvements. For example, the contact treatment of flanges has been expanded to enable a better assessment of the spot-weld forces at solid and beam elements. Further failure options have also been introduced. In addition, a new keyword is available to model bolted connections, which allows for a simplified definition of prestress.

The seminar is designed for engineers with practical simulation experience who wish to broaden their knowledge in the field of connection simulations using LS-DYNA.

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CONTENT/LECTURERS

Content

- Spot-welds/rivets
  - Options to model spot welds
  - Discussion of element types and formulations
  - Tied contacts, flange-flange contact
  - Material modeling of spot-welds
  - Definition of damage and failure
  - Analysis of spot-weld forces
- Prestressed and non-prestressed bolted connections
  - Options to model bolted connections
  - Contact formulations for bolts
  - Analysis of bolt forces
  - KEYWORD: INITIAL_STRESS_SECTION for automated bolt prestressing
- Adhesive bonds
  - Types of adhesive bonds: assembly adhesives, structural adhesives
  - Modeling the adhesive joint
  - Element formulation for continuum elements
  - Special hourglass control
  - Application and use of cohesive elements
  - Connection by tied contacts
  - Established and new material models
- Spot-weld adhesive bonding
- Verification and validation of connection technology models
- Spot-weld adhesive bonding

Lecturers

Dr. Markus Feucht (Daimler AG) has been solving structural mechanical problems in the field of passive safety for many years. His in-depth knowledge of material and connection modeling enable him to significantly contribute to the method development of specialized modeling techniques.

Dr. Tobias Graf (DYNAmore GmbH) has been teaching seminars for many years on a variety of topics relating to LS-DYNA. He can draw from a comprehensive pool of user experience and has profound simulation knowledge. As a methods developer deployed on site at Daimler, he ensure the practicability of new joining techniques in LS-DYNA.

Dr. André Haufe (DYNAmore GmbH) has been with DYNAmore since 2002 and is the company's chief representative in the field of process simulation. He is also specialized in the creation of material, damage and failure models as well as the development of numerical modeling techniques for various connection methods.

REGISTRATION FORM

Registration

☐ I herewith register for the seminar:
"Joining Techniques for Crash Analysis with LS-DYNA",
10 - 11 March, Stuttgart, Germany.

☐ Industry: 950 € ☐ University: 475 €

Students free of charge, provided there are vacancies.

Sender

First name: _____

Last name: _____

Company/University: _____

Dept.: _____

Street: _____

Zip-code, city: _____

Phone: _____

Fax: _____

E-Mail: _____

Date, Signature: _____

Please complete and fax to +49(0)711-459600-29, send to DYNAmore GmbH, Industriestr. 2, D-70565 Stuttgart, Germany, or E-mail to seminar@dynamore.de.

Online registration at www.dynamore.de/verbtechnik-e

Data protection and competition law declaration of consent:

With your registration you allow us the use and the processing of your data for seminar organization and own promotional purposes. You may at any time revoke these commitment. For this, please contact DYNAmore GmbH by phone or in writing.