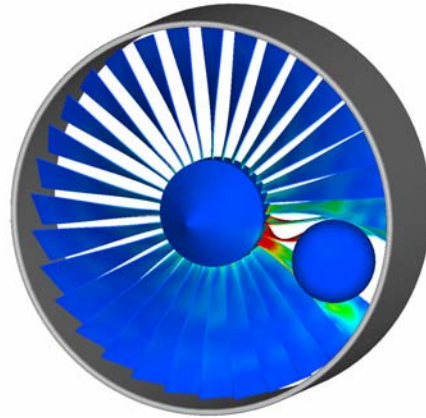


# NEi Explicit™

## Features

### Overview

NEi Explicit is designed to extend and enhance the capabilities of the NEi Nastran offering. NEi Explicit allows users to simulate extremely large models undergoing highly nonlinear response. NEi Explicit is fully integrated into the NEi Nastran environment so existing NEi Nastran input files can be read seamlessly by the new explicit code, and gives Nastran users a comfortable feel while working with the product.



### Capabilities:

#### Analysis Procedures:

- Transient explicit dynamics
- Restart
- Full large deformation and large rotation formulation
- Material failure and element deletion capability

#### Material Models:

- Isotropic linear elastic
- 2D orthotropic linear elastic
- Von Mises plasticity
- Rigid materials

#### Element Library:

- 3D solid
  - CHEXA, CPENTA, CTETRA
- 3D shell and membrane
  - CQUAD4, CQUADR, CTRIA3, CTRIAR
- 3D beams and trusses
  - CROD, CBEAM, CBAR, CELAS1, CELAS2
- Point mass and rotary inertia
  - CONM2

#### Initial Conditions:

- Velocity

#### Parallel Execution:

- Domain decomposition
- Available on both distributed memory and shared memory platforms

#### Contact Modeling:

- Consistent with NEi Nastran contact definition
  - BSSEG, BSCONP
- Large deformation contact sliding with friction
- Automatic contact tracking of all contact surface pairs
- Fully automatic contact surface pair generation
- Contact pair definitions using individual user specified surfaces
- Node set contact
- Tied contact pairs (glued)

#### Constraints:

- SPC with amplitude functions
- Rigid bodies (RBE2)

#### Load:

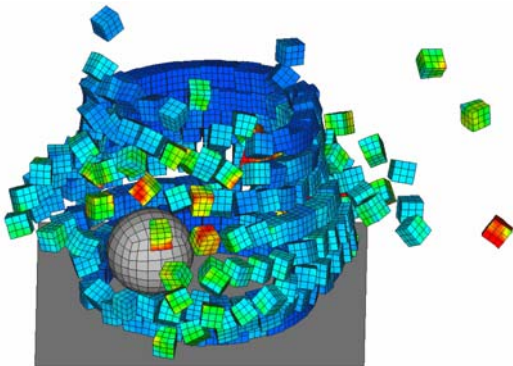
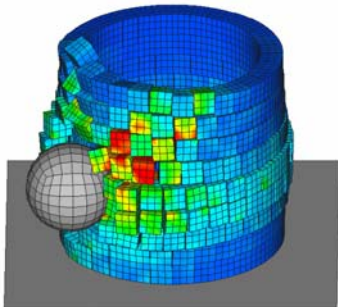
- Amplitude functions
- Point loads
  - FORCE, FORCE1
- Point moments
  - MOMENT, MOMENT1
- Gravity (GRAV)
- Pressure (PLOAD4)

#### Damping:

- Material damping
- Structural damping

**General:**

- Fully compatible with NEi Nastran input
- FEMAP output files
- Available on:
  - Windows
  - Linux
- Complete training course
- Manuals
  - User's Manual
  - Reference Manual
  - Tutorials Manual



**NEi Software, Inc.** is committed to the success of our customers. Detailed documentation, customized on-site training, and comprehensive technical support ensures that you will see immediate return on your investment.

**For more information about our company or our products, please contact:**

**Headquarters:**

**NEi Software, Inc.**

5555 Garden Grove Blvd., Suite 300  
Westminster, CA 92683-1886  
USA

Phone: 1.714.899.1220

Fax: 1.714.899.1369

Email: [info@neisoftware.com](mailto:info@neisoftware.com)

Website: [www.NENastran.com](http://www.NENastran.com)



NEi Explicit

From NEi Software, Inc.