

Academic software bundle for structures

The Academic Software Bundle for Structures provides several related software products to help you assess the functional performance of mechanical parts & products from a structural perspective (displacement, strain, stress, frequency), a thermal perspective (temperatures, gradients, flow paths), an acoustics perspective (noise levels, flow paths), or some combination of these.

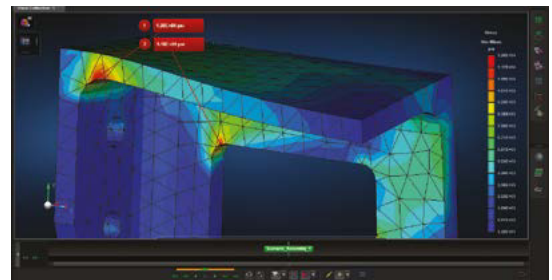
You can use this bundle to perform a broad range of simulations such as static and dynamic FEA, linear and nonlinear FEA, in the time domain or the frequency domain, as well as analyses involving contacts and impacts, vibrations, and fluid-structure interactions.

Targeted users and goals

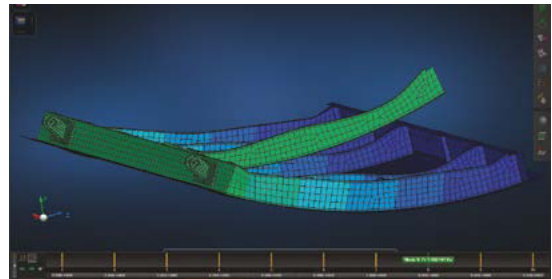
- Professors striving to bring engineering principles to life and teach courses that are more dynamic, fun, and effective
- Researchers seeking innovative engineering solutions
- Students taking courses, doing research, or working on projects or competitions in search of the best possible engineering education through motion & systems simulation!

Benefits

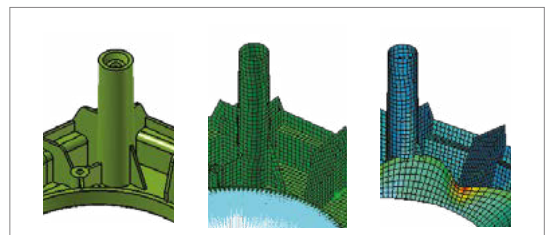
- Affordable - schools can obtain numerous licenses on a reasonable budget
- Conveniently accessible - run this software in a computer lab at school or on your own computer
- Easily scalable to industrial-strength - start with small models and progressively increase complexity and realism without hitting walls based on model size (Crawl-Walk-Run); do the same scale of simulations done by commercial companies.
- Unrestricted simulation capability - our academic licenses provide the same capabilities as commercial licenses for the software products in this bundle
- Tailored licensing - “academic user packs” are available based on your intended usage scenario
- Complement engineering theory & textbooks for a richer education



Define loading scenarios and view deformation and stress plots



Use Normal Modes Analysis for vibration problems or locate unconstrained meshes



Progress from geometry to mesh to stress

Product Modules

MSC Apex Modeler

MSC Apex CAD Access Pack

MSC Apex Structures

Dytran

Marc Complete Package

Marc GPU (Unlimited Cores)

Marc Multi-Processor - 32 Processors

Mentat Geometry Translators

MSC Nastran Advanced Structures Package

MSC Nastran Advanced Nonlinear (SOL 400)

MSC Nastran Rotordynamics

MSC Nastran Aeroelasticity I

MSC Nastran Coupled Modes

MSC Nastran GPU (Unlimited Cores)

MSC Nastran Digimat Interface

MSC Nastran Digimat Parallel (32 Cores)

MSC Nastran Parallel (32 Cores)

MSC Nastran Modules

MSC Nastran Tire Modeling

MSC Nastran Explicit - Dytran-Based

Patran Basic Package

Patran Generic Geometry Translators

Patran ACIS SAT Access

Patran CATIA V4 Access

Patran CATIA V5 Access

Patran Creo Access

Patran NX Access

Patran SolidWorks Access

Patran ABAQUS Preference

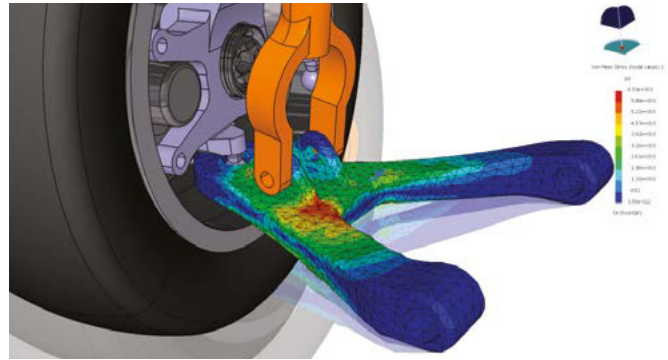
Patran ANSYS Preference

Patran LS-DYNA Preference

Patran PAM-CRASH Preference

Patran Thermal

FlightLoads



Find stress hot spots in a vehicle suspension

Applications in engineering coursework, research, and student projects

- Dynamics
- Mechanism Analysis
- Vibrations
- Robotics
- Computer-aided Engineering
- Mechanics of Machinery
- Capstone Design
- Vehicle Engineering
- Metal-forming & shaping
- Plasticity & nonlinear materials
- Contact dynamics
- Aircraft Design & Engineering
- Aeroelasticity
- Rotordynamics
- Spacecraft Thermal Design & Analysis
- Biomedical Engineering (stents, implants, prosthetics, soft tissue, medical devices, etc)
- Fluid-Structure Interactions
- Multi-Scale Modeling
- Formula SAE, Baja, Aero Design/Build/Fly,
- Steel Bridge, etc.



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