

Connect to All



RECURDYN

Particleworks

CFD

DEM

MBD

Control

FEA

MFBD

MBS-FE Coupling

FMI

SimulationX

CoLink

Simulink

AMESim

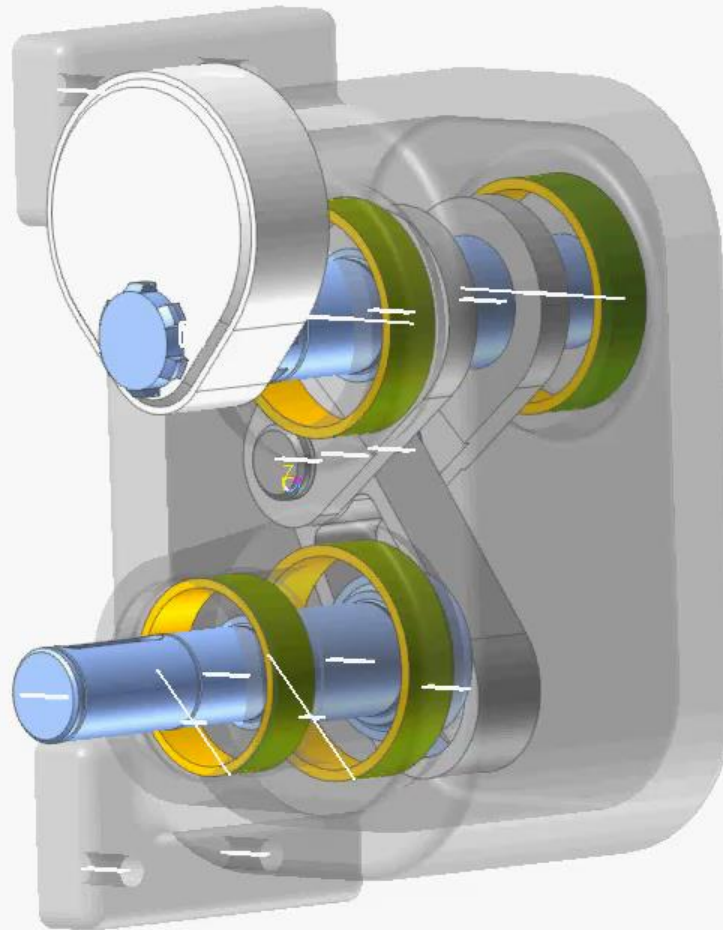
Simplorer

RecurDyn V9R3: Acoustics Toolkit Tutorial

Nelson Woo

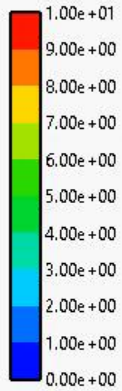
Step 1: Rigid body model of vibrating transmission

Time = 0.00000000 Second

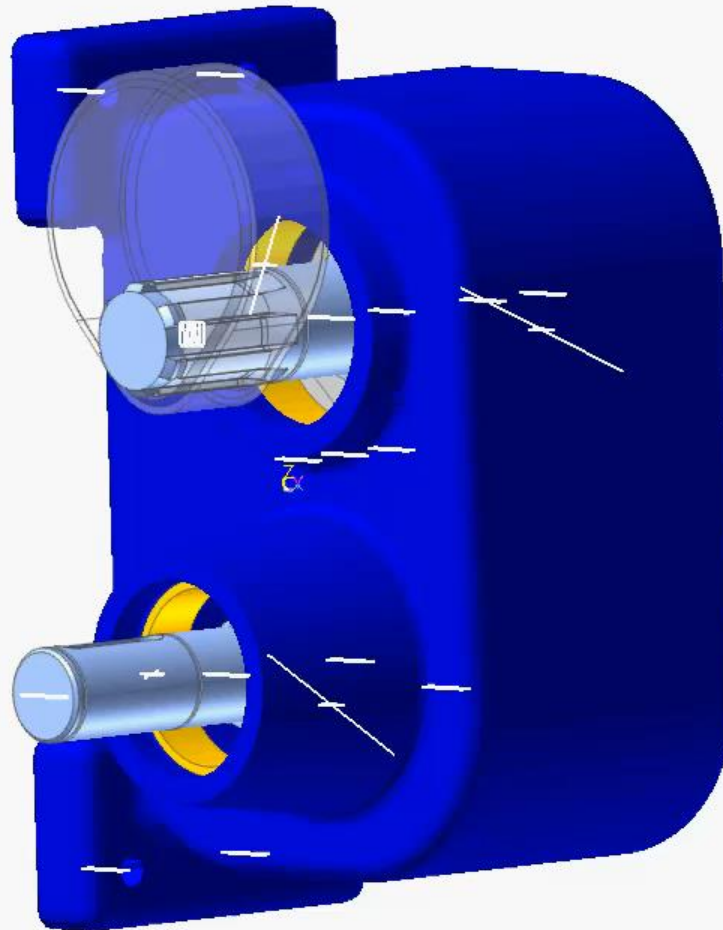


Step 2: Use RFlex to model flexible housing

Time = 0.00000000 Second



Von Mises stress
Max at Node B216 time:0.000200
Min at Node 1 time:0.000000

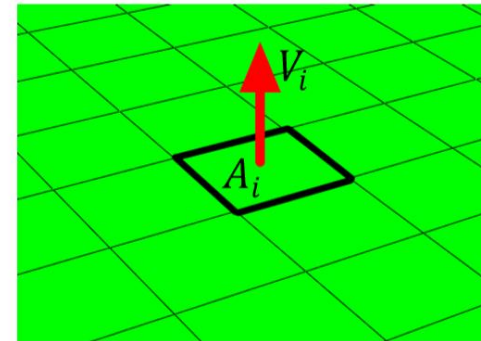
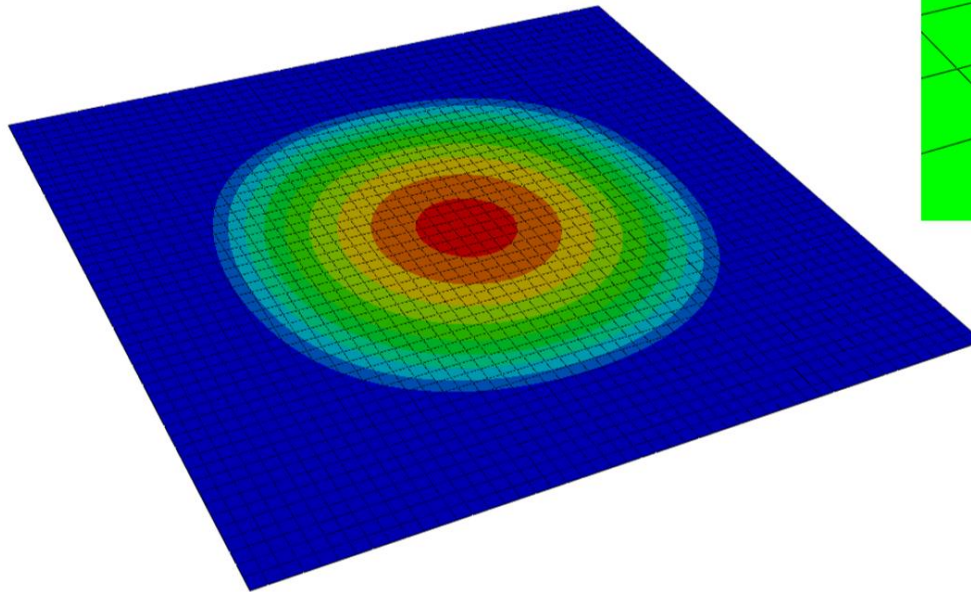


Step 3: Calculate ERP (Equivalent Radiated Power)

Equivalent Radiated Power is a measure of sound emission for a surface.

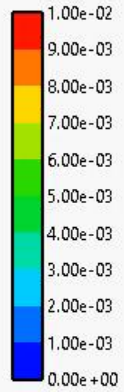
$$ERP = RLF \times \frac{1}{2} \times C \times \rho \times \sum (A_i \times V_i^2)$$

- RLF*: Radiation Loss Factor
- C*: Sound Velocity
- ρ : Air Density
- A_i : Surface Area of Each Element
- V_i : Normal Velocity of Each Element

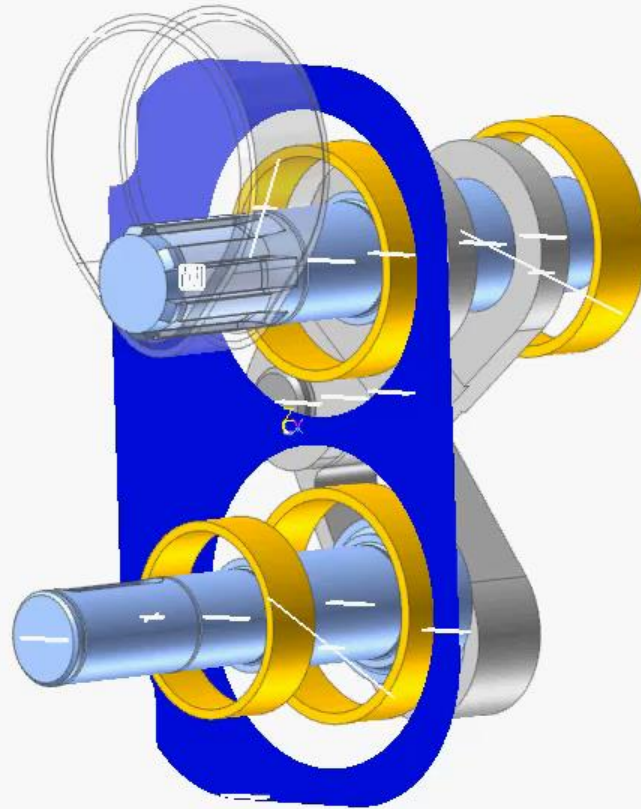


ERP Results

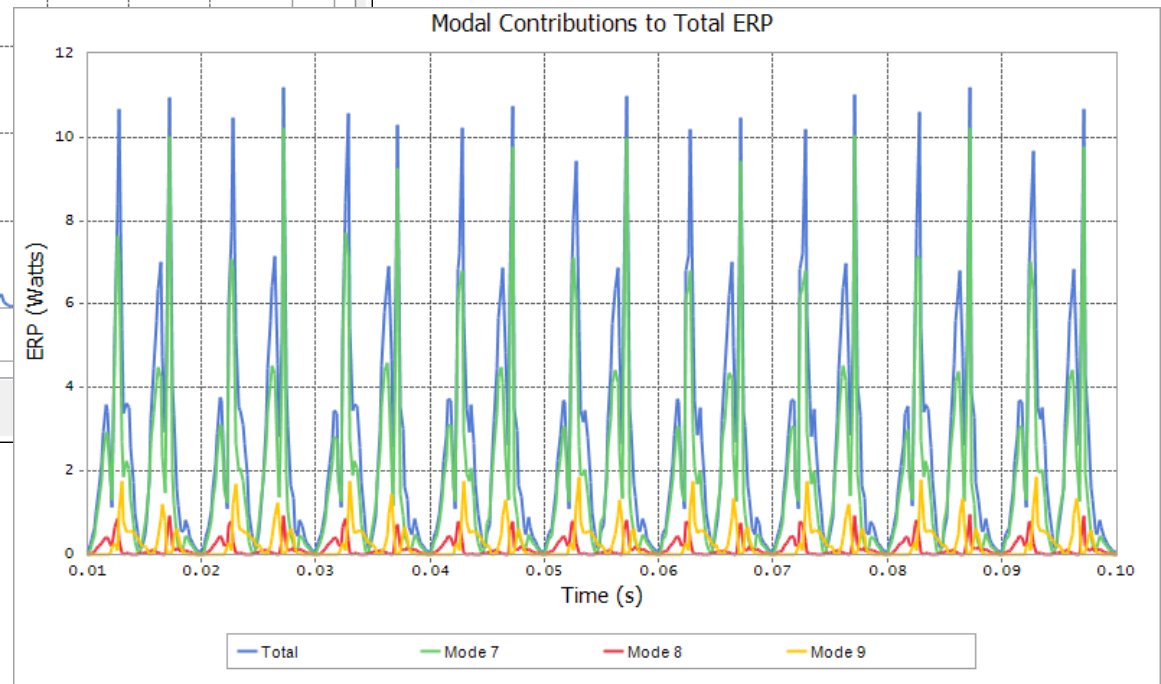
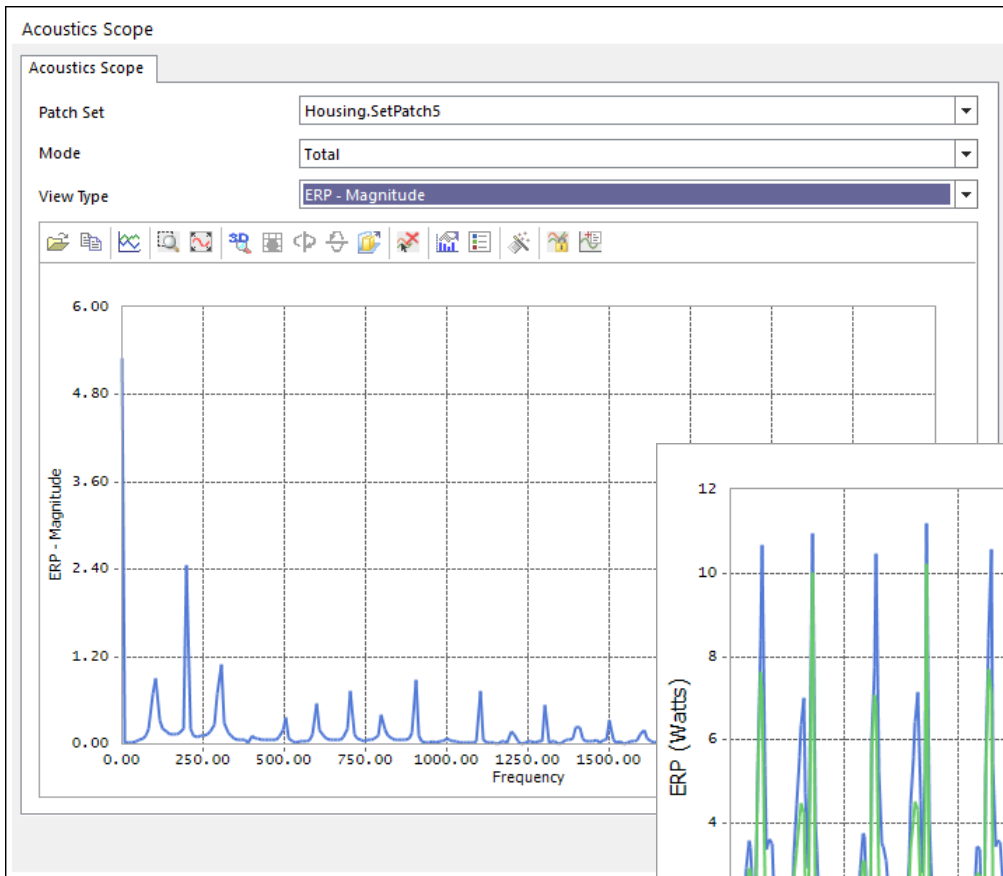
Time = 0.00000000 Second



ERP
Max at Node 8216 time:0.000200
Min at Node 1 time:0.000000



ERP Results



Questions?

For assistance with tutorial:

Email: support@motionport.com

Call: (734) 678-2159

Connect to All

Multidisciplinary integrated analysis solution implemented in one environment



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Particleworks

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AMESim

Simplorer

Self-contained solution for multidisciplinary integration including MFBD, CoLink and AutoDesign

Scalability through connection with analysis solutions

FEA – MFBD, G-Modeling, Durability, MBD for ANSYS

CFD - Particleworks (fluid particles) EHD (lubrication)

Control – CoLink, Simulink, FMI, AMESim, SimulationX, Simplorer

DEM - EDEM (solid particles)

Optimization – AutoDesign, Mode Frontier

Customization – Excel, C#

Others – KISSsoft (Gear/Bearing), TSG toolkit (experimental data)