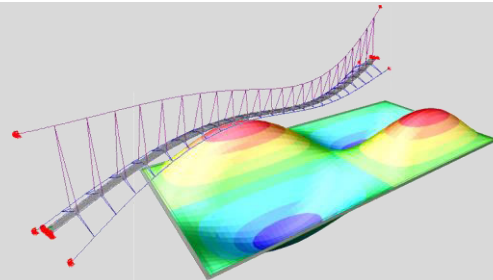


RTfrequency

11.11.477 Option Frequency analysis

Option Frequency analysis for TRIMAS and PONTI

- Efficient calculation of natural frequencies and vibration modes
- Application in building and bridge construction
- Application for 3D structures / structural-ground models
- Kinetically equivalent masses from existing loads
- Graphical evaluation and animation for the determined eigenvalues



With RTfrequency the basic systems TRIMAS and PONTI can be extended for the processing of frequency analysis for beam and plane structures. Static loads can be automatically converted into mass fractions and internal forces can be included in the frequency analysis.



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RTfrequency Features

Programme component for general structures with Windows®-oriented working environment for analysis of eigenfrequencies and according eigen shapes for general structural systems. Besides the structural stiffness also the mass distribution contributes to the frequency behaviour of the structure. The consideration of eigen- and additional masses can be conveniently introduced in the system by automatic generation of masses from the existing permanent loading in combination with an according acceleration vector in a defined direction. By this feature, the exact mass distribution in the structure can be represented very easily. The influence of existing stress distribution on the structural stiffness can be considered optionally by means of the geometric nonlinear stiffness effect from a selected load combination.

All results of the frequency analysis are stored in the data base for each eigenfrequency as displacements in an independent loading case. Beyond this, the mass distribution to the structure and to the individual nodal points is evaluated as well as the kinetic equivalent mass distribution.

The following functions are available for TRIMAS® and PONTI® for general structures:

- Assembly of the mass matrix for bar, beam and shell elements
- Conversion of static loadings (according to the direction of action of the acceleration vector) into equivalent point, line and area masses from a defined load case

- Automatic consideration of eigen masses
- Optional consideration of geometric stiffness by means of transferring stress resultants from a static load case
- Evaluation of eigenfrequencies and eigenmodes
- Evaluation of kinetic equivalent masses
- Documentation of results with report and according graphical representations
- Display of evaluated nodal masses
- Display and animation of evaluated eigenfrequencies and eigenmodes

With the program component RTfrequency the basic version of TRIMAS® and PONTI® can be extended for the investigation of the frequency behaviour for general structures.

