



PAGE 1

PAVIATH INTEGRATED SOLUTION

MATHEMATIS

ME EXPRESSIONS

MECHANICAM EXPRESSIONS

Paviath ONLINE

ENGINEERING • UNIVERSITY COLLEGE STUDENTS

The Next Generation of Mechanical Engineering Software

Mechanical Expressions is a symbolic mechanics program. Create a model, specify the geometry using symbolic constraints, add velocities, masses and force elements, and then extract mathematical expressions for output velocities, accelerations and forces. Copy expressions for input into a mathematics system like Mathematica, or copy them as Tex, MathML, or computer source code (in 9 languages). Or, create an HTML5/Javascript app, allowing you to communicate your design intent as an interactive, single-file web page that you can email to your colleagues or post on your web site. You'll quickly discover that Mechanical Expressions is truly a new breed of software.

Explore Mechanical Expressions

Mechanical Expressions can model a broad array of situations pertinent to physicists and engineers. In this section, we've compiled fifteen examples that showcase Mechanical Expressions' capabilities.

GEOMETRIC MODELING EXAMPLES

▪ APPROXIMATING CIRCULAR ARCS WITH CUBIC SPLINES ▪ PARAMETRIC DESIGN ▪ CAM DESIGN
STATICS EXAMPLES

▪ FORCE AND SPRING EQUILIBRIUM ▪ CRANK SLIDER TORQUE ▪ FORCES IN A SIMPLE STRUCTURE

DYNAMICS EXAMPLES

▪ TREBUCHET ▪ WHEELED TREBUCHET
▪ MODELING PLANETARY MOTION

SALTIRE SOFTWARE

◆ MECHANICAL EXPRESSIONS

◆ IMPORT ▪ FIGURE GALLERY ▪ GX FILE ATLAS

◆ YOUTUBE TUTORIAL

◆ QUICK START GUIDE

◆ DRAW/ANNOTATE/CONSTRAIN (INPUT)

◆ CONSTRUCT/CALCULATE OUTPUT

◆ IMPORT/EXPORT

KINEMATICS EXAMPLES

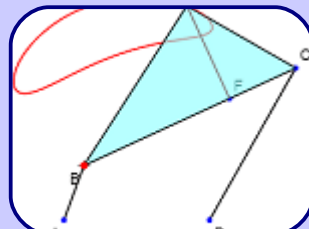
▪ PENDULUM, ANGULAR VELOCITY, AND RELATIVE VELOCITY ▪ 4 BAR LINKAGE
KINEMATICS ▪ KINEMATICS OF AN OFF-CENTERED CIRCULAR CAM

INVERSE DYNAMICS EXAMPLES

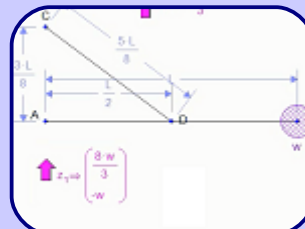
▪ GENEVA MECHANISM ▪ QUICK RETURN MECHANISM ▪ TORQUE IN A FOUR-BAR LINKAGE



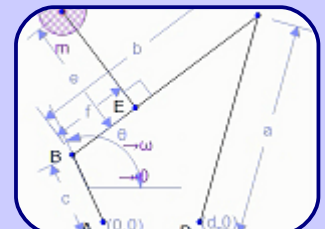
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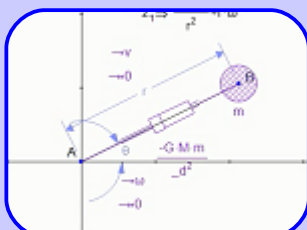
KINEMATICS



STATICS



INVERSE DYNAMICS



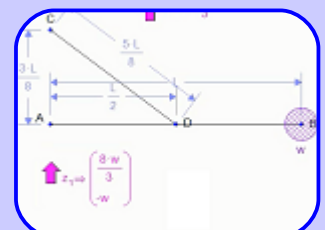
DYNAMICS



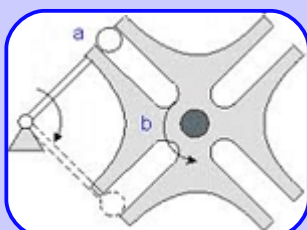
GEOMETRIC MODELING



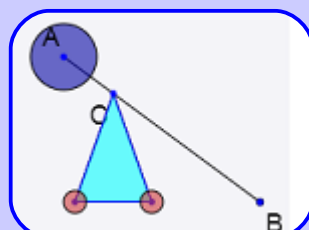
KINEMATICS



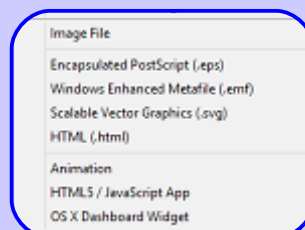
STATICS



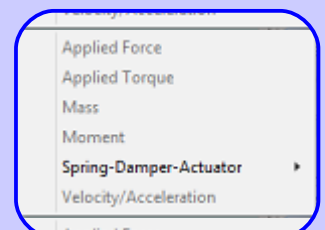
INVERSE DYNAMICS



DYNAMICS



ME EXPORT



ME INPUT

info@paviathintegratedsolution.com -www.paviathintegratedsolution.com www.paviathjobportal.com