Mechanical Engineering with Saltire



Atlas of the Four-Bar Linkage

Containing over 500 diagrams, each of which shows between 5 and seven coupler curves, this book is a great resource for the mechanical designer. While software can let you examine an infinite number of curves, there is nothing like a physical book for browsing and appreciating the whole range of possibilities presented by the classic four bar linkage.

The Atlas of the Four-Bar Linkage covers the same parameter space as Hrones and Nelson's classic Atlas, covering the four forms: crank rocker, crank crank, crank slider and inverted crank slider.

Electronic Atlas of the Four-Bar Linkage

Our Electronic Atlas of the Four-Bar Linkage for your iPad combines the ease of browsing of a physical book with the flexibility of a computer program.

All diagrams from our paper Atlas are present, but in interactive form. You can drag the crank of the linkage and appreciate its motion. You can also modify the link lengths and the location of the coupler curve, and thus interpolate between the parameters presented in the pages of the book. Where the printed book gives a discrete set of locations in the design space, the electronic book allows access to the entire continuum.









Create a four bar linkage model with your own parameters. The website lets you set the lengths of all the links and the location of the coupler point, creates a 3D model which you can inspect and observe in motion. It then gives you the option to order the model printed in plastic.

This is a quick way to get a prototype of your motion delivered in the form of a desktop model. These working models are printed in one piece, no assembly required.

www.saltire.com



www.paviathintegratedsolution

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Mechanical Expressions

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.

Analytix 21

A favorite of design engineers around the world, Analytix is a conceptual design and analysis tool which is useful in the first stages of design and analysis of a mechanical product, while it is just a concept and not a fully flushed out design.

Prototyping is expensive. Virtual prototyping is cheaper, but still time consuming. With Analytix you can engage in a rapid virtual prototype loop where radically different design alternatives can be explored in a fraction of the time taken to create a full-blown virtual prototype.



Analytix Cams 21

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Analytix Cams enables mechanical engineers to quickly synthesize a cam profile given their follower motion requirements. Alternatively, from an existing cam profile, the follower's geometry and kinematics can be quickly designed, fine-tuned and analyzed. Export DXF to CAD or coordinate data to NC/CAM software.

Analytix Cams can be used standalone or in conjunction with Analytix for modelling the cam/follower interaction with your mechanical system.

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