TWO AUTOMATION AND ROBOTICS SOFTWARE TOOLS FOR INDUSTRIAL LOGISTICS

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ABSTRACT

ESL (The European Space Agency Simulation Language) provides the following key advantages:

Rapid Development
• multi-window graphical block diagram editor for model construction • submodel concept allows hierarchical modelling of complex systems • interactive control of simulation execution • snapshot allows the state of a simulation to be saved and resumed later • vector and matrix arithmetic • both differential equation and transfer function model description Accuracy • wide range of sophisticated and proven numerical integration algorithms • extensive checking of model correctness • accurate treatment of discontinuities Connectivity • parallel simulation processing • embedded and remote simulation capability • invocation of external libraries Robustness • robust simulation engine handles very large non-linear model Other Advantages • interpreter mode or translation into C++ or FORTRAN • real-time capability • run-time and post-run graph plotting • application specific toolbox capability • allows mix of graphical and textual modules New Features in version 8.0 • ability to call remote segments from embedded segments • generation of COM/ActiveX components from simulation models • extended parameter and package declarations • improved interface with toolbar and configuration options • toolbox wizard to customise the palette for specific applications • additional library submodels • extended menus

The Modeling and Simulation Tool for the Business of Engineering and Science

Keywords: Automation software, Industrial logistics

1. INTRODUCTION OVERVIEWS

Introducing acslXtreme™ (Advanced Continuous Systems Simulation Language) acslXtreme has the versatility to model a diverse array of continuous dynamic systems whose behavior is characterized by a set of ordinary differential equations (ODE) or differential algebraic equations (DAE). As a result, acslXtreme enjoys a universal appeal among engineers and scientists working in industries such as aerospace, automotive, energy, process, defense, electronics, chemical, marine, robotics, biomedical, pharmaceutical, and life
sciences. The technical fields of application also vary widely from fluid dynamics, multi-body motion dynamics, 6-DOF vehicle dynamics, process modeling, drug development, toxicology, and control system design.

acslXtreme gives you the power to predict the world in modeling and simulation.

acslXtreme is the sophisticated, next-generation tool for modeling continuous dynamic systems and processes. Simple to learn and easy to use, acslXtreme is a refreshingly modern application built on top of the latest technologies including .NET and XML.

Whether your expertise is heat transfer, fluid flow, motion dynamics, 6-DOF modeling, electronics, pharmacology, or toxicology, in acslXtreme you will find a tool that is versatile and powerful enough to meet the needs of your most challenging simulation problems. With acslXtreme, you work easily and efficiently to achieve quick and accurate results.

acslXtreme provides both graphical and text-oriented modeling environments that give you full control over your models. Best of all, acslXtreme helps you present and preserve your findings so you continue to capture value for your work well into the future.

acslXtreme provides the power and flexibility to represent the world’s most complex systems accurately and completely. Incorporating acslXtreme into your research and development process will improve productivity, reduce risk, and encourage innovation.

acslXtreme allows you to model the full nonlinear behavior of your system or process. When modeling systems that involve both controls and physical systems, for example, there is no need to “linearize”

the physical system. When using acslXtreme, nonlinear system attributes are fully represented. There is no limitation on program size, number of equations, states, or variables. Therefore, your models can represent large, real-life systems with all of the complexities and without impairing your ability to understand, use, describe, and present them to your colleagues.

2. EXHIBIT

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