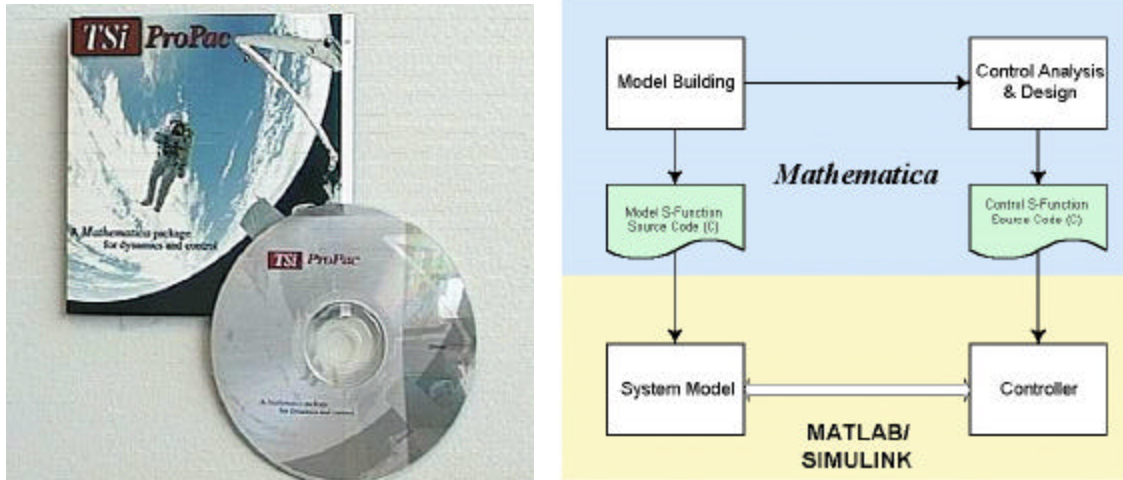


## TSi ProPac – Computing tools for modeling and control



### TSi ProPac – A Mathematica<sup>®</sup> package for modeling, linear and nonlinear control.

TSi has pioneered in the application of symbolic computing to control system engineering. Our involvement in dynamic analysis and control system design projects that range from space robotic systems and tracked ground vehicles to weapon pointing systems, aircraft and submarines inspired the development of a suite of symbolic computing tools for model building and control system design. All of these projects required that we confront essentially nonlinear problems that were not amenable to purely numerical analysis methods. Symbolic computing supplements traditional numerical tools.

Even when working with complex nonlinear models, it enables an engineer to:

- perform basic mathematical operations for linear and nonlinear system (like implement a coordinate transformations or compute a Lie bracket),
- build explicit fully nonlinear, symbolic models, including flexible bodies, discontinuous friction, backlash, and impact,
- simplify models (e.g., via Taylor linearization or symmetry reduction),
- automatically generate numerical simulation code,
- implement nonlinear control constructions (such as compute an inverse system or perform feedback linearization),
- automatically generate numerical code for implementing controllers.

TSi ProPac is a Mathematica<sup>®</sup> package developed and published by TSi. It requires Mathematica<sup>®</sup> 3.0 or higher. The current stable release of ProPac is 3.0. It includes more functionality, revised code creation tools and improved and expanded on-line help than the previous versions. The price of single user professional license is USD 895 (plus tax and shipping).

Please contact us for academic and other licensing options.

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_

State/Province: \_\_\_\_\_

Postal Code: \_\_\_\_\_

Country: \_\_\_\_\_

Telephone: \_\_\_\_\_

Fax: \_\_\_\_\_

Payment:      Check/PO enclosed            Credit card (enter details below)     

For credit cards:    VISA/MC no. \_\_\_\_\_ exp. \_\_\_\_\_

Examples of ProPac applications include space robotic systems, a tank with a composite hull, automobile and semi-trailer lateral dynamics, a high speed civilian transport, commercial and military aircraft, a 30 mm chain gun, and an undersea vehicle.

In addition to our own application projects, hundreds of users of TSi ProPac provide valuable feedback that continues to drive our development effort.

Consulting/Contracting services are available.  
Software upgrade subscriptions available.

To purchase

- Call: 1 (301) 577 – 6000
- Fax: 1 (301) 577 – 0831



Techno-Sciences, Inc.  
10001 Derekwood Lane, Suite 204  
Lanham MD 20706 USA  
(301) 577 6000