

Optimization

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High-Level Modeling

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Eupener Str. 135-137 50933 Cologne, Germany Tel.: +49-221-949-9170 Fax: +49-221-949-9171 *info@gams.de http://www.gams.de* The General Algebraic Modeling System (GAMS) is a **high-level modeling system** for mathematical programming problems. GAMS is tailored for complex, large-scale modeling applications, and allows you to build large maintainable models that can be adapted quickly to new situations. Models are **fully portable** from one computer platform to another.

Wide Range of Model Types

GAMS allows the formulation of models in many different problem classes, including

- Linear (LP) and Mixed Integer Linear (MIP)
- Quadratic Programming (QCP) and Mixed Integer QCP (MIQCP)
- Nonlinear (NLP) and Mixed Integer NLP (MINLP)
- Constrained Nonlinear Systems (CNS)
- Mixed Complementary (MCP)
- Programs with Equilibrium Constraints (MPEC)
- Conic Programming Problems
- Stochastic Linear Problems

Global Public Policy Modeling

PEAT-SIM is the Partial Equilibrium Agricultural Trade Simulation model used to analyze the effects of alternative proposals for agricultural trade liberalization and policy reform on a global scale. It has been developed jointly by the Economics Research Service (ERS) of the U.S. Dept. of

Agriculture and the Dept. of Agricultural Economics and Rural Sociology at Penn State University.

- Freely available for public use: current users include government & academic agencies worldwide
- Sustained, collaborative development effort, beginning January 1999
- Multi-region, multi-commodity model drawing data from many sources
- Incorporates a wide range of policy intruments, e.g.: specific and ad-valorum tariffs/subsidies, tariff-rate quotas (TRQ's), producer & consumer subsidies, production quotas
- Discontinuous functions (e.g. TRQ's) modeled using complementarity and solved using PATH



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GAMS Integrated Developer Environment for editing, debugging and solving models and viewing data.

State-of-the-Art Solvers

GAMS incorporates all major commercial and academic state-of-the-art solution technologies for a broad range of problem types, including global nonlinear optimization solvers.