



Breault
Research

Taking Light
Further

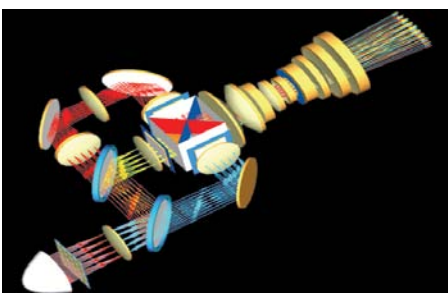
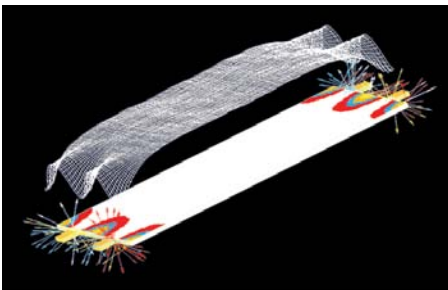
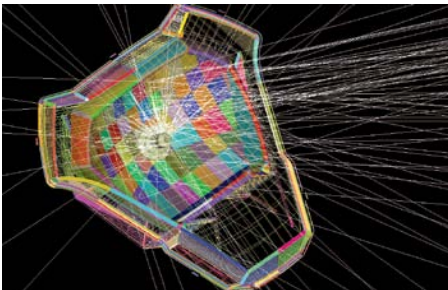
ASAP®

Design and analyze imaging and illumination systems with CAD interoperability

ASAP® is known throughout the optics industry for its accuracy and efficiency. Rays can encounter surfaces in any order and any number of times, with automatic ray splitting. Optimized for speed, ASAP will trace millions of rays in minutes. Use ASAP to model complex imaging systems, illumination systems, and light-concentrating devices. Create highly accurate source models using source images, point sources, ray grids, and fans. Model incandescent bulbs, LEDs, CCFLs, and HID arc lamps, or import from the BRO Light Source Library. Perform the analyses necessary to validate your designs without experimental prototyping.

Customers in need of CAD software solutions may also purchase a license of SolidWorks®, an intuitive 3D-design environment optimized for use with ASAP. Multiple configurations of SolidWorks Parts, Assemblies, and Drawings are available. Write ASAP geometry files from within SolidWorks, import XML files, or use BRO's proprietary smartIGES™ system to import system models from any CAD package while maintaining fast, efficient ray trace speed.

ASAP includes a distributed-processing capability allowing you to complete big design jobs in a fraction of the time required by other tools — spawn up to 5 additional ASAP sessions on your Local Area Network (LAN), without leaving your desk.



Key ASAP Features

- Build system models requiring large numbers of objects and sources
- Model optical and mechanical system components
- Model imaging systems, illumination systems, and light-concentrating devices
- Model visible, ultraviolet, and infrared radiation in optical systems
- Model surface (BRDF) and volume scatter (pre-defined or custom)
- Model radiometry of complex systems, including radiance
- Visualize, analyze, and monitor light distributions using conformal radiometry
- Render system geometry, raytraces, and light sources
- Perform numerical and graphical CIE/Chromaticity analyses
- Optimize optical systems with the ASAP Optimization interface
- Save, review, and resume optimizations in progress with ASAP .osf files
- Tolerance optical systems in the ASAP Builder interface or scripts
- Import measured source data such as Radiant Sources™
- Import/Export Photometric Data in EULUMDAT and IES LM-63-02
- Import data from images using the BRO Digitizer™
- Use the SolidWorks Parts Only 3D Modeling Engine (license optional)
- Write ASAP-specific GTX files from within SolidWorks
- Assign object and layer names in SolidWorks
- Write ASAP-specific IGES files from within Rhinoceros®
- Import/Export IGES files using the ASAP smartIGES translator
- Import geometry and optical properties using the XML file format
- Integrate scripts in Python, Vbscript, Jscript, and other languages
- Use pre-defined LED, CCFL, incandescent, and arc sources
- Drag-and-drop sources, lenses, glasses, scatter models, and coatings
- Begin your simulation with one of 600+ example files
- Perform distributed processing tasks using the enhanced REMOTE
- Create your own custom workspace within ASAP



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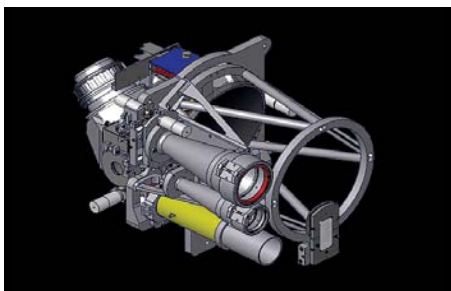
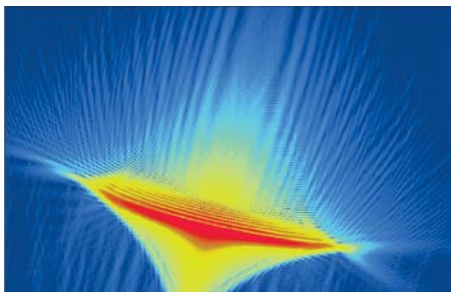
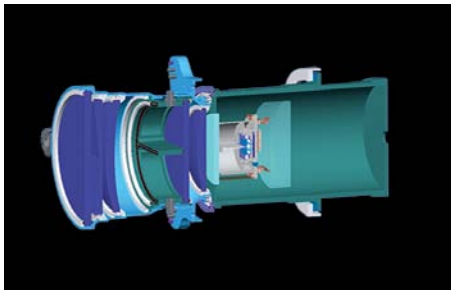
ASAP PRO®

As the name implies, ASAP PRO is for your toughest optical engineering challenges

ASAP® PRO combines the design power in the standard edition of ASAP with sophisticated features for modeling coherent systems, including Gaussian beam propagation, finite-difference beam-propagation, double-precision ray tracing, and polarization ray tracing. The resulting package is everything you need to turn your creative visions into working prototypes, taking into consideration the most complex of optical phenomena and interoperability challenges.

In addition to fully-featured CAD interoperability and wave optics power, ASAP PRO will import lens-design application files from CODE V®, OSLO®, SYNOPSYS™, and ZEMAX®, and is interoperable with the finite-difference time-domain code FDTD Solutions™. Together, ASAP and FDTD Solutions handle both macroscopic systems and microstructures in an elegant manner — a first in the optics industry. No other software combination spans such a large optical space.

ASAP PRO includes a distributed-processing capability allowing you to complete big design jobs in a fraction of the time required by other tools — spawn up to 5 additional ASAP sessions on your Local Area Network (LAN), without leaving your desk.



Key ASAP PRO Features

- Build system models requiring large numbers of objects and sources
- Model optical and mechanical system components
- Model imaging systems, illumination systems, and light-concentrating devices
- Model visible, ultraviolet, and infrared radiation in optical systems
- Model surface (BRDF) and volume scatter (pre-defined or custom)
- Model propagation in optical fibers and fiber coupling
- Model radiometry of complex systems, including radiance
- Visualize, analyze, and monitor light distributions using conformal radiometry
- Model polarization and coherent effects in optical systems
- Characterize liquid crystal materials using the ASAP Liquid Crystal Cell (LCC)
- Define uniaxial materials with the ASAP General Uniaxial Medium (GUM)
- Simulate devices and track polarization information in Stokes-vector mode
- Model MUELLER devices that alter degree and state of polarization
- Model display backlight units with polarization recycling
- Propagate and analyze wavefronts using Gaussian-beam decomposition
- Propagate in microstructures using the ASAP beam-propagation method
- Perform double-precision ray traces and analyze individual ray histories
- Perform numerical and graphical CIE/Chromaticity analyses
- Optimize optical systems with the ASAP Optimization interface
- Save, review, and resume optimizations in progress with ASAP .osf files
- Tolerance optical systems in the ASAP Builder interface or scripts
- Import systems from CODE V®, OSLO®, SYNOPSYS™, and ZEMAX®
- Import/export complex vector-field distributions from FDTD Solutions™
- Import measured source data such as Radiant Sources™
- Import data from images using the BRO Digitizer™
- Use SolidWorks® Parts Only 3D Modeling Engine (license optional)
- Write ASAP-specific GTX files from within SolidWorks
- Assign object and layer names in SolidWorks
- Write ASAP-specific IGES files from within Rhinoceros®
- Import/Export IGES files using the ASAP smartIGES™ translator
- Import geometry and optical properties using the XML file format
- Integrate scripts in Python, VBscript, Jscript, and other languages
- Use pre-defined LED, CCFL, incandescent, and arc sources
- Drag-and-drop sources, lenses, glasses, scatter models, and coatings
- Begin your simulation with one of 600+ example files
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