AccelOrator



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The Newsletter for Particle Beam Optics Software

September 2016



New PSI-TURTLE Module for PBO Lab!

Paul Scherrer Institut's popular Graphic Turtle now available

PSI-TURTLE Module for PBO Lab 3.1

A new PBO Lab Module has been developed that integrates the popular multi-particle simulation code known as Graphic Turtle into the PBO Lab framework. Developed by Urs Rohrer of the Paul Scherrer Institut (PSI), the Graphic Turtle program significantly extends the capabilities of PBO Lab. Based upon the original TURTLE ("Trace Unlimited Rays Through Lumped Elements") program of Fermilab and SLAC, the PSI version incorporates powerful data visualization features and includes key physics modeling not available in other versions. Some capabilities of the PBO Lab PSI-TURTLE Module are summarized below.

• PSI-TURTLE Module fully self-contained.

The PSI-TURTLE Module is fully integrated with PBO Lab 3.1 and all of the standard beam optics elements of PBO Lab ("Pieces") work seamlessly with the Module. The enhanced graphics and visualization capabilities of Graphic Turtle are easily utilized via simple, intuitive menus. With the written permission of the Paul Scherrer Institut, all necessary executables, libraries and files are included with the PSI-TURTLE Module.

• Unique PSI-TURTLE physics modeling included.

The PSI-TURTLE Wein filter, EXB separator, material scatterer, and other elements are included. New PBO Lab Pieces were developed to make their use simple, with all of the capabilities users expect of PBO Lab available. The new Material Scatterer Piece provides for the easy set up of geometry and material properties, with intuitive inputs and options, making the multiple scattering capabilities readily accessible.

• PBO Lab enhancements for the PSI-TURTLE Module.

Numerous PBO Lab tools and features are customized to support the PSI-TURTLE Module. These include quick Plot Specifications for commonly used graphic data sets, to help set scales and other parameters for visualization displays.

• PBO Lab User Manual Supplement.

A detailed and comprehensive manual, together with examples, is included with the software ("PBO Lab 3.0 User Manual Supplement: PSI TURTLE-Module"). The manual may also be downloaded directly from the AccelSoft website (www.ghga.com/accelsoft/manuals).

Upcoming Events and Other News

28th International Linear Accelerator Conference (LINAC16)

We invite our customers and AccelOrator readers to meet the AccelSoft staff and ask questions, offer suggestions, and learn more about our software.

Plan to Visit Booth No. 8

 24th International Conference on the Applications of Accelerators in Research and Industry (CAARI 2016)

Fort Worth, Texas: 25 October - 4 November 2016

*** ACCELORATOR NEWS BULLETIN ***

A new method for modeling apertures within the context of the uniform equivalent beam approximation has been developed and implemented in the PBO Lab 3.1 TRACE 3-D Module. The new method is described in a paper being presented at the 2016 LINAC conference entitled:

"Simulating Apertures in the Uniform Equivalent Beam Model" paper MOPRC009

PBO Lab TRACE 3-D Module users may request an updated TRACE 3-D Module library (trace3d.dll version 1.1.2.0) by contacting us via email: accelsoft@ghga.com

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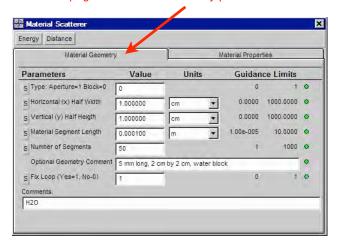
PBO Lab PSI-TURTLE Application Module Just a Few of the Features and Capabilities of the PSI-TURTLE Module



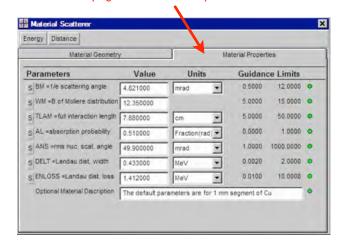


New Optics Pieces include a Material Scatterer Piece

One tab page for Material Geometry parameters

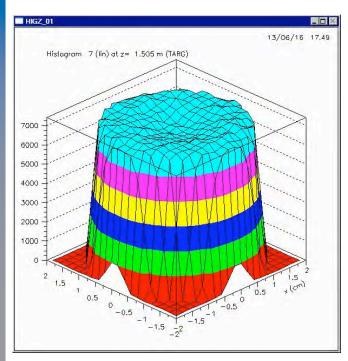


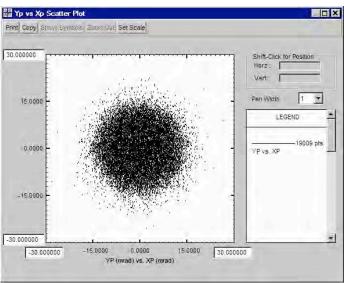
Another tab page for Material Properties



Graphic Turtle Visualization:

Plus PBO Lab Plotting Tools:





For current products and other information contact AccelSoft:

www.ghga.com/accelsoft - or - www.accelsoft.us

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