



# NOVICE Software Suite

## NOVICE & 3D Printing

### 6-Sided Box Analysis With 3D Printing Precision

- ✓ Exposure or coverage for surface tiles as small as  $1\text{mm}^2$
- ✓ Coverage thickness for surface tiles as small as  $1\text{mm}^2$

NOVICE therefore provides accurate distributions. It is not limited to providing average thickness across an entire surface<sup>1</sup>

NOVICE box analysis easily extends to drive a 3D printer to print the calculated file pattern

1. Calculations limited to average thickness across a surface fail to show a) whether any given portion of the surface is exposed to space, and b) coverage thickness for any given portion of the surface.

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## **ANYSIDEBOX ANALYSIS** Beyond the Six-Sided Box

**NOVICE's AnySideBox analysis supersedes the six-sided-box approach. The AnySideBox analysis:**

- ✓ Models not only the six-sided box, but also constructs of as few as 4, or more than 6, sides
- ✓ Inserts the modeled construct into the system geometry
- ✓ Performs millions of super-fine detail ray-traces
- ✓ Records separate tables of results for each side of the construct, including:
  - Hit numbers and rates from rays originating inside the construct
  - Hit numbers and rates from rays originating outside the construct
  - Tabulated mass distributions and mass distribution moments through quartic for multiple materials and multiple energetic particles<sup>1</sup>

1. Tabulated mass distributions and mass distribution moments through quartic in equivalent carbon, aluminum, iron, tin, tantalum, and uranium and for electron, bremsstrahlung, and proton particles; anisotropic cases in the same run if desired, e.g., 10 to 1 flux enhancement along the +x axes and/or user specified directions, recorded separately for both inside and outside hits

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