Luminit DTF Beta Example

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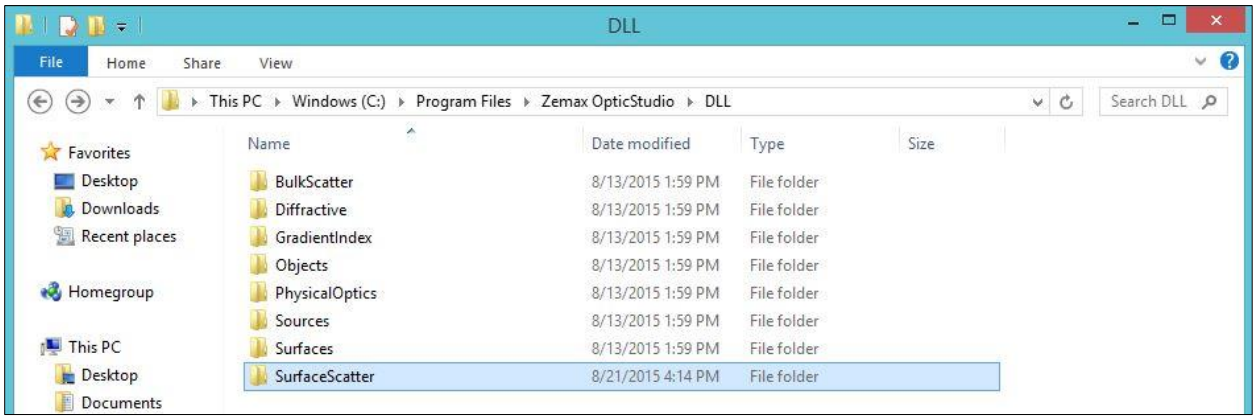
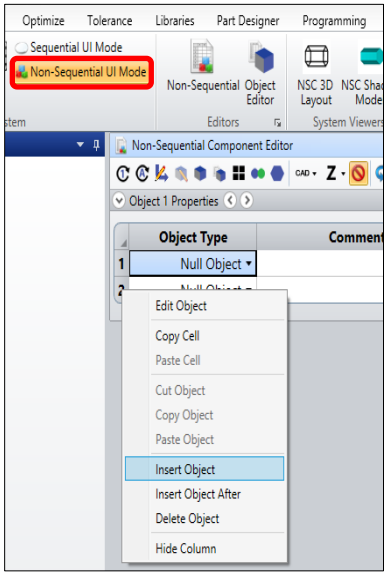
Please read Luminit LSD user guide before proceeding.

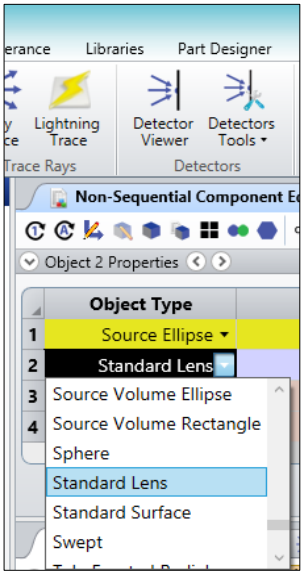
This is a basic example using Luminit DTF user guide as a basis to help users navigate Zemax user define scatter functions using Luminit's DTF functions. The example below uses Luminit's DTF beta function.

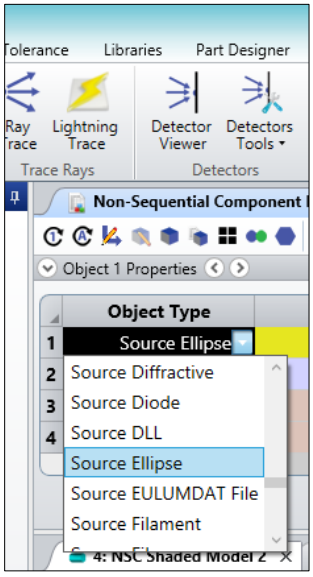
1. Locate and copy DTF20degBeta.dll file.
2. If Zemax is open, close it at this time. Then go to Windows (C:)>Program Files>Zemax Optical Studio>DLL>SurfaceScatter and paste the file into the SurfaceScatter folder.



3. Open Zemax, and set up your source and object on the spread sheet. Make sure you are in non-sequential mode.







Click the object, and open the object properties. In this case, an acrylic (PMMA) standard lens object is chosen with a thickness of 0.1 and a radius of 0.

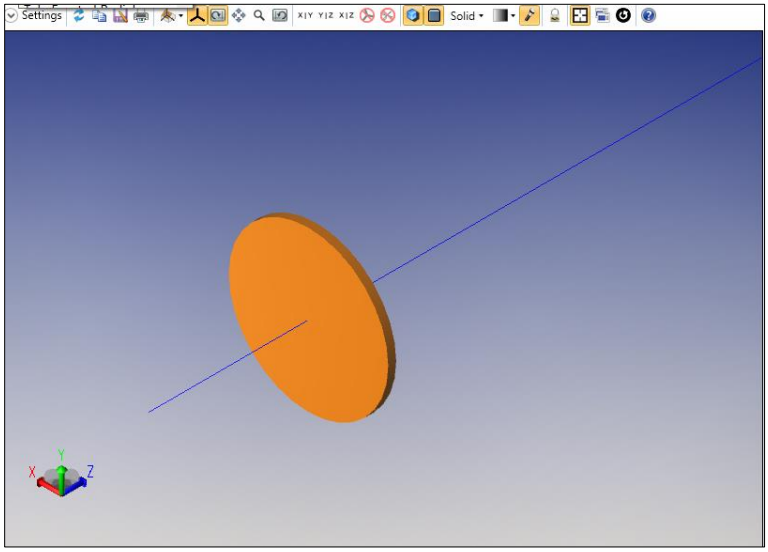
Ref Object	Inside Of	X Position	Y Position	Z Position	Tilt About X	Tilt About Y	Tilt About Z	Material	Radius 1	Conic 1	Clear 1	Edge 1	Thickn
0	0	0.000	0.000	-2.000	0.000	0.000	0.000	-	10	100000	1.000	0	
0	0	0.000	0.000	0.000	0.000	0.000	0.000	PMMA	0.000	0.000	1.000	1.000	0.1
0	0	0.000	0.000	0.000	0.000	0.000	0.000		90.000	10.000	181	180	
0	0	0.000	0.000	0.000	180.000	0.000	0.000		90.000	10.000	181	180	

The source is a source ellipse and is -2.00 distance away.

Configuration 1/1

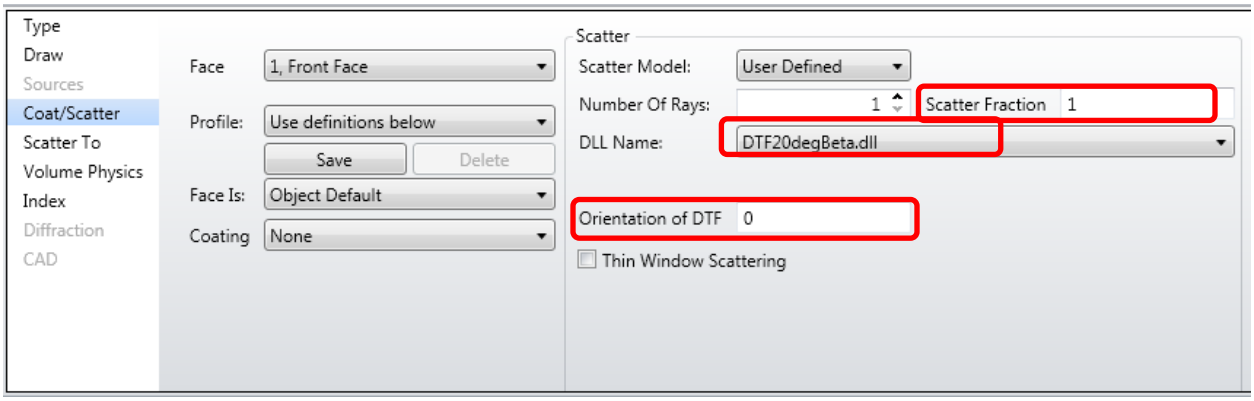
Ref Object	Inside Of	X Position	Y Position	Z Position	Tilt About X	Tilt About Y	Tilt About Z	Material	# Layout Rays	# Analysis Rays	Power(Watts)	Wavenumber	Color
0	0	0.000	0.000	-2.000	0.000	0.000	0.000	-	10	100000	1.000	0	
0	0	0.000	0.000	0.000	0.000	0.000	0.000	PMMA	0.000	0.000	1.000	1.000	0.1
0	0	0.000	0.000	0.000	0.000	0.000	0.000		90.000	10.000	181	180	
0	0	0.000	0.000	0.000	180.000	0.000	0.000		90.000	10.000	181	180	

4. Check to see if the object surface ‘face’ is normal to the Z axes (facing towards or away from the Z axes). You can use the Zemax object viewer for this. The selected surface face will be highlighted in orange.



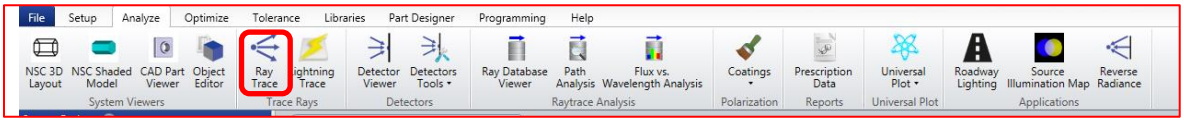
5. To use Luminit DTF, follow the menu options:
Object Properties>Coat/Scatter>Scatter>Scatter Model>User Defined>DLL Name>DTF20degBeta

6. Set the ‘Scatter Fraction’ to 1.

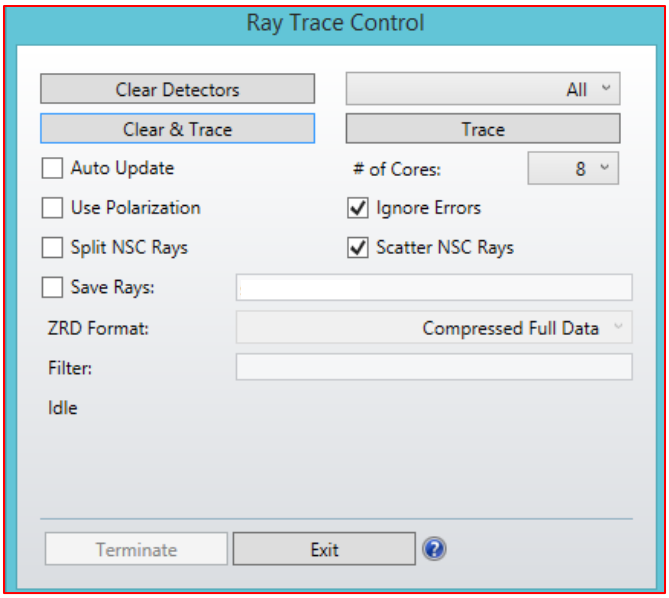


Apply only to ‘1, Front Face’. Other faces should be ‘No Scattering’.

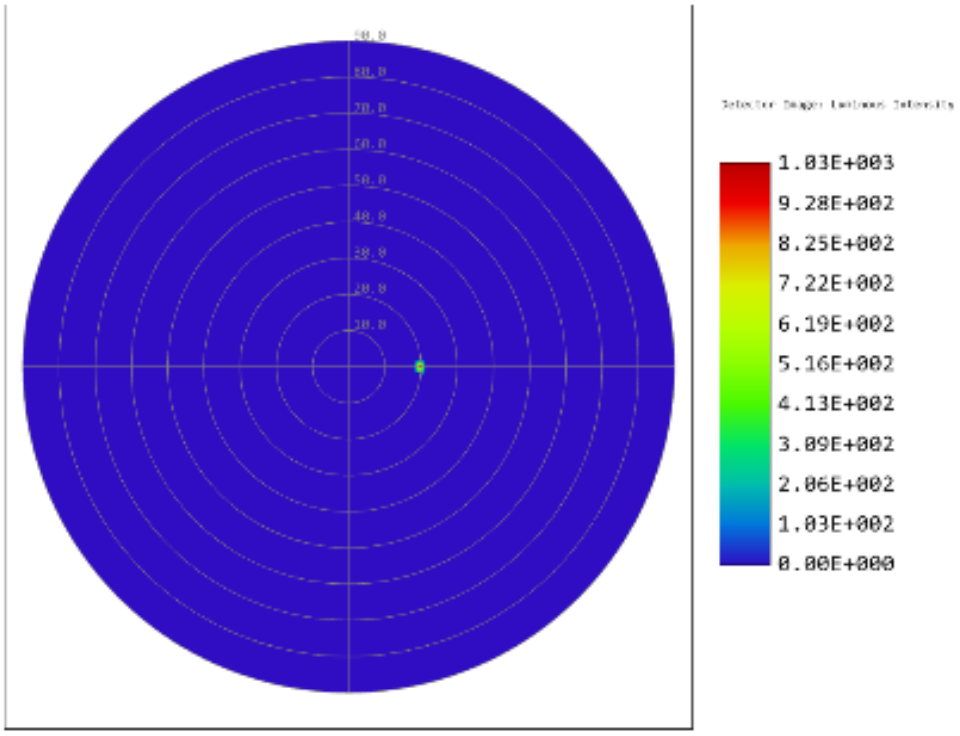
7. Click ‘Ray Trace’, and a window will pop up.



8. In ‘Ray Trace Control’, turn off ‘Split’ and ‘Polarization’. Turn on ‘Scatter’ and ‘Ignore Errors’. When you are ready to trace the rays, click ‘Clear & Trace’.



9. The analysis rays will trace and show up on the analysis detectors.



Detector Image: Luminous Intensity	
1/15/2016 Detector 3, NSCG Surface 1: Trans Max polar angle: 90.00 deg, Total Hits = 956790 Peak Intensity : 1.031E+003 Lumens/Steradian Total Power : 9.556E-001 Lumens	Zemax OpticStudio 14.2 SP1 LENS.ZMX Configuration 1 of 1