Subject: Re: Optics simulation with IDL?
Posted by Randall Skelton on Fri, 18 May 2001 23:59:25 GMT
View Forum Message <> Reply to Message

I have used IDL & MATLAB for simulating/modeling optics in different optical systems. With that being said, I don't really recommend doing it in either language as there are no pre-fabricated tools for doing it quickly. Basically, it amounts to writing code for a bunch of optical matrices (which you can find in any good optics textbook) and multiplying them appropriately. "Ray tracing" is nothing more than matrix operations which both IDL and MATLAB can do easily. However, a programmer must first understand optical matricies to write code for this...

You should look into some of the free optics packages available on the web (or something like zemax if you want to do real optics calculations). However, IMHO you will need a firm grasp of general optics theory to use any of these tools effectively. Perhaps if you post more hints as to exactly what you are trying to do, I can dig through my code and find a suitable example to post.

Cheers,
Randall

On Fri, 18 May 2001, karri wrote:

> Date: Fri, 18 May 2001 14:11:30 +0300
> From: karri <karri@dna.fi>
> Newsgroups: comp.lang.idl-pvwave
> Subject: Re: Optics simulation with IDL?
>
> On Thu, 17 May 2001, Mike wrote:
>> xvolume? slicer3?
>
> My need is some kind of ray-tracer. Most IDL volume tools can just build
> 3d objects with or without transparency. I sort of hoped that there would
> be something available for doing ray-tracing as well. But I could not find
> anything useful.
>
> Time to start learning to use some Linux ray-tracer then...
>
>> In article <Pine.LNX.4.21.0105171244420.12011-100000@twins.dna.fi>, karri
>> <karri@dna.fi> wrote:
>>> Does IDL have functions for visualizing how light travels through some
>>> transparent plastic objects?
>
> --
> Thanks,

>
> Karri
>
>
>