Re: Entrance and Exit Pupils Positions

Source: http://sci.tech−archive.net/Archive/sci.optics/2005−12/msg00132.html

- *From*: Jim Klein <jameseklein@xxxxxxxxxxxxx>

- *Date*: Thu, 08 Dec 2005 15:23:42 GMT

You can trace rays from the center and top and bottom of the aperture stop out toward the object and from the center and top and bottom of the aperture stop out toward the image in order to get the sizes and positions of the entrance and exit pupils.

The locations of the object and image do not determine pupil positions.

See Jenkins and White or Hecht and Zajack or any other basic optics text with a chapter on stops.

youzpalang@xxxxxxxxxxxx wrote:

>Agree, but the Aperture Stop is determined by lunching a ray from the
>Object Point on the optics axis and increasing its lunch angle until
>its blocked by an element in the optics system, this is then the
>Aperture Stop from which we could get the Entrance and Exit pupils as
>you noted.
>However, by moving our Object Point to another position on the optic
>axis and repeating the above procedure, it is posible that another
>element could block the ray thus giving us a different Aperture Stop
>resulting in different Entrance and Exit pupil positions (and sizes).
>
>thanks for your comments.
>
>
>Jim Klein wrote:
>> youzpalang@xxxxxxxxxxxx wrote:
>>
>> >
>> >
>> >Hi:
>> >
>> >Does Entrance Pupil's position of an optic system depend on where the
>> >Object (a point source) is located on the oprics axis of the optic
>> >system?
>> >
>> >thanks

>>
>>
>> Simply, NO. The entrance pupil is the image of the aperture stop as
>> seen from object space and formed by any and all optics which lie
>> between the observer and the aperture stop. The position is generally
>> referenced to a distance from the first optical surface but may be
>> referenced to any reference point in the system.
>>
>> The exit pupil is the image of the aperture stop as seen from image
>> space and formed by all of the optics between the observer and the
>> aperture stop.
>>
>> In some systems these images are real and in others they are virtual.
>>
>> See chapter 4 (or near it) in Optics by Jenkins and White for further
>> information.
>>
>> Hope this helped. It took me a long time to clearly visualize it
>> myself.
>>
>>
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>>
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>>
>> Home of the "New" KDP−2 Optical Design Program
>> for Windows and (soon) MAC OSX
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>> We have a free version for Windows
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- ***Follow−Ups***:

- ***Re: Entrance and Exit Pupils Positions***
  - *From:* youzpalang

- ***References***:
  - ***Entrance and Exit Pupils Positions***
    - *From:* youzpalang
  - ***Re: Entrance and Exit Pupils Positions***
    - *From:* Jim Klein
  - ***Re: Entrance and Exit Pupils Positions***
    - *From:* youzpalang

- Prev by Date: ***Re: KDP2 now available***
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