

Re: how to deliver and focus

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- *From:* "Marco" <marco@xxxxxxxxxxxx>
 - *Date:* 22 Sep 2005 09:03:36 -0700
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Leonard,

One more input, my laser is a Synrad 48 with $M2 = 1.2$.

I have many question for you if you have the time:

- which formulas did you use, with mine I have other results. If you used a program, could you send me the file, at the university there are many optical software I could take a look at;
 - which is the best way to place the lenses, I mean which face of each lens should the laser beam reach first? The concave or the plane one the plano-concave? On the meniscus? On the plano-convex?
 - if I "focus" my BE at 10m as you said, will I affect the diffraction limit spot size due to the long focal length of the system?
 - can I consider that my beam is on a waist just out the laser?
 - up to which lens diameter can I consider good a meniscus lens to have a good focus (considering the spherical aberration)? Or, when do I really need an aspheric one?
 - if I consider a 10 meters long system, which could be the BE ratio that makes me have an almost constant beam size all along, as in the example you made for the 20m system? I think that 23.7, 22.7 and 23.5 could be considered "constant", so I don't need to move my BE to adjust its focusing power when I want to deflect and focus a beam at 4 meters or at 16 meters instead of 20m, but I only have to place the mirror in the path and deflect the beam on the focusing lens.
 - from your experience, compared to a generic ZnSe meniscus lens, an aspheric ZnSe one how much could cost? 1.5 times? 2 times? more?
- Thanks, Marco

• *References:*

- ◆ *how to deliver and focus*
◇ *From:* Marco
- ◆ *Re: how to deliver and focus*
◇ *From:* Leonard Migliore
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Re: how to deliver and focus

◇ *From:* Leonard Migliore

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