

Need help with wavefront distortions on filter surfaces

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Hello,

I have a question and I thought someone in this group might have some experience with this.

I am trying to setup a confocal fluorescence microscope and would like to use a dichroic mirror to separate the collected fluorescent signal into two arms. The transmission arm works OK, however, I don't get a good focusing on the reflection arm. It turned out that the dichroic is distorting the wavefronts in reflection so much that I can't efficiently focus it through the pinhole.

The filter company says the coating on the filter puts stress on the filter and causes it to bend slightly. I just have the bare filter without any mount. It's 1mm thick. I tried mounting on metal fixtures and using rings, gluing the filter to aluminum filter holders, but my every attempt failed and did not improve focusing. Do you have any suggestions for mounting the filter so that I make sure that the filter surface is flat? Should I purchase a thicker dichroic?

Thanks,
Mehmet

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