Hi Professor

This week, I found that the original alignment for the laser metallic mesh does not always work. It is highly sensitive and unpredictable when adjusting the mesh angle. Even a very small angle change can lead to a significant alteration in the FIR beam profile.

I have tried different angle positions to achieve the best beam profile, but it is not a quick task—it takes time. The only method to check the mesh angle relies on the zero-order scattering point on the image plane, but the position of this point does not show obvious differences even with significantly different FIR beam patterns. Therefore, I believe it is crucial to enlarge the optical path length for finer adjustments.

I think we can build a box that allows the HeNe laser beam to be reflected multiple times in the box. This could help increase the beam path for more sensitive adjustments and reduce the distance needed for alignment, especially in a laboratory where there is limited space for direct laser alignment. I plan to discuss this idea with Jon to see if it is possible to fabricate such an alignment-assistant box. Because it is very important for our laser setup and adjustments, we need to find a reliable and effective solution to address this problem.

Have a good weekend!

Best regards

Xinhang