Hi Professor

This week I still works on the laser adjustment, but since the last time I got the nice beam profile, that good beam profile not appear again, no matter how I adjust to the center or around the center.

Since the beam profile is very sensitive to the metallic mesh, and adjusting the mesh angle is based on the diffraction pattern on the image plane. After talking with Jon and Calvin, I check the beam profile with the diffraction pattern around the center, try to find some tendency of the beam profile with the diffraction position. However, the results don’t have obvious tendency with the diffraction position. I also try to set the diffraction pattern on the center, but still can’t control the beam profile. we don’t know which direction the mesh should adjusts, even each time the diffraction pattern set on the center would have different beam profile. Beside this, after experiment the diffraction pattern would also shift away from center about 2mm.

To avoid any problem from the metallic mesh, Jon made a new mesh and installed on the system with more rigid method which could have less deformation to the mesh structure duo to the force acted on the frame. However, the primary results still have no good performance. I need discuss with Calvin and Jon to figure out how to do more improvement.

Have a good weekend!

Best wishes

Xinhang

This week I am still working on laser adjustment, but since the last time I got a nice beam profile, that good beam profile has not appeared again, no matter how I adjust to the center or around the center.

Since the beam profile is very sensitive to the metallic mesh, and adjusting the mesh angle is based on the diffraction pattern on the image plane, after talking with Jon and Calvin, I checked the beam profile with the diffraction pattern around the center, trying to find some correlation of the beam profile with the diffraction position. However, the results don’t show an clear trend with the diffraction position. I also tried to set the diffraction pattern at the center but still couldn’t control the beam profile. We don’t know in which direction the mesh should be adjusted, as even when the diffraction pattern is set at the center, it results in a different beam profile each time. Besides this, after the experiment, the diffraction pattern also shifts away from the center by about 2 mm.

To avoid any problems from the metallic mesh, Jon made a new mesh and installed it in the system using a more rigid method, which could reduce deformation of the mesh structure due to the force acting on the frame. However, the initial results still do not show good performance. I need to discuss more with Calvin and Jon to figure out how to make further improvements.

Have a good weekend!

Best wishes,

Xinhang