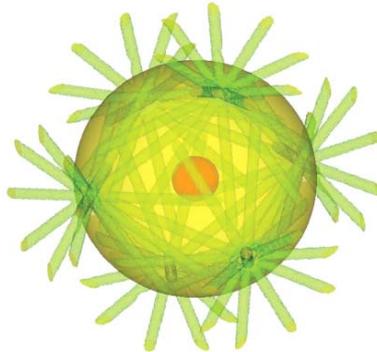


PROGRESS ON OCTAHEDRAL SPHERICAL HOHLRAUM STUDY

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In this talk, we present our study on octahedral spherical hohlraum study. First, our study shows that the spherical hohlraums with 6 Laser Entrance Holes (LEHs) of octahedral symmetry have robust high symmetry during the capsule implosion at hohlraum-to-capsule radius ratio larger than 3.7 [1]. In addition, it also has potential superiority on low backscatter without supplementary technology. Second, we study the laser arrangement and constraints of the octahedral hohlraums, and give a design on laser arrangement for ignition octahedral spherical hohlraum [2]. As a result, the injection angle of laser beams of 50 to 60 degree is proposed as the optimum candidate range for an ignition octahedral hohlraums. Third, we propose a novel octahedral hohlraum with LEH shields and cylindrical LEHs [3], in order to increase the laser coupling efficiency and improve the capsule symmetry and to mitigate the influence of the wall blowoff on laser transport. Fourth, we study the sensitivity of capsule symmetry inside the octahedral hohlraums to laser power balance, pointing accuracy, deviations from the optimal position and target fabrication accuracy, and compare the results with that of traditional cylinders and rugby hohlraums [4]. Finally, we present our recent experimental studies on the octahedral hohlraums on SGIII prototype laser facility.



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