



Progress in Octahedral Spherical Hohlräum Study

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In this talk, we report on our progress in octahedral spherical hohlraum study, including theoretical study, experimental study, and 3D simulation development. For theoretical study, we will address the concept, configuration, design and robust (sensitivity) of the novel octahedral spherical hohlraums with cylindrical Laser Entrance Holes (LEH), the proposal of using $4\omega - 2\omega$ laser as ignition driven, and a point design of ignition target with a spherical hohlraum. For experimental study, we will address all experiments implemented on the ShenGuang(SG) laser facilities since 2014, including improvement of laser transport by using the cylindrical LEHs in the spherical hohlraums, first spherical hohlraum energetics, first experimental demonstration of low laser-plasma instabilities in gas-filled spherical hohlraums at laser injection angle designed for ignition target, how to realize the laser injections into 6LEH spherical hohlraum on SGIII laser facility which was designed for the cylindrical hohlraums, and first energetics of 6LEH spherical hohlraum on SGIII laser facility, etc. For 3D simulation, we will address the physics included in our 3D code and the 3D simulation results on the 6LEH octahedral spherical hohlraums with cylindrical LEHs.

References

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