

Abstract Submitted  
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**An immersed boundary method for aeroacoustic flow using a high-order finite difference method** BRITTON OLSON, Lawrence Livermore Natl Lab — An immersed boundary method that achieves second order accuracy in space on acoustic reflection problems is introduced and tested on a number of aeroacoustic related problems. The method follows a continuous forcing approach and uses existing solver operators to smoothly extend the flow solution through the immersed boundary. Both no-slip and free-slip boundary conditions are demonstrated on complex geometries using a high-order finite difference code on a Cartesian grid. High Mach number test problems are also shown, demonstrating the method's robustness in the presence of shock waves.

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