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A Singular Value Decomposition of 15MProgenitor Chimera Entropy Data JESSE BUFFALOE, BRANDON BARKER[1], University of Tennessee - Knoxville, EIRIK ENDEVE, Oak Ridge National Laboratory, ANTHONY MEZZACAPPA, University of Tennessee - Knoxville, ERIC LENTZ, Oak Ridge National Laboratory — Core collapse supernovae are characterized by muti-dimensional dynamics. Studies have shown that the shock formed at core bounce always stalls. Until the development of axisymmetric (2D) simulations, little progress towards reviving the shock had been made. Modern simulations have given rise to the idea that both neutrino driven convection and the standing accretion shock instability (SASI) play pivotal roles in reviving the stalled shock. These mechanisms can increase the time material spends in the gain layer. The gain layer, the region near the stalled shock where net neutrino heating occurs, is dominated by turbulent flow. The turbulence in this region is necessary for maximizing the efficiency of the neutrino heating mechanism. Much of modern supernova theory is concerned with which of these two mechanisms plays a larger role in the revival of the stalled shock. We attempt to employ a singular value decomposition (SVD) in order to explore the relative contributions of the neutrino driven convection and SASI mechanisms.

[1]Brandon will be conducting an oral presentation on the same abstract.

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