1163-35-1058 **Helge Kristian Jenssen** (jenssen@math.psu.edu) and **Charis Tsikkou*** (tsikkou@math.wvu.edu). *Amplitude blowup in radial isentropic Euler flow.*

We show that the compressible Euler system for isentropic gas flow admits unbounded solutions. The examples are radial flows of similarity type and describe a spherically symmetric and continuous wave moving toward the origin. At time of focusing, both the density and the velocity become unbounded at the origin. This is followed by an expanding shock wave which slows down as it interacts with the incoming flow.

While unbounded radial Euler flows have been known since the work of Guderley (1942), those are at the borderline of the regime covered by the Euler model: the upstream pressure field vanishes identically (either because of vanishing temperature or vanishing density there). In contrast, the solutions we build exhibit an everywhere strictly positive pressure field, demonstrating that the geometric effect of wave focusing is strong enough on its own to drive the primary flow variables to infinity. (Received September 14, 2020)