Radical or Traditional

Hyperbolic System for High-Order PDEs

Hyperbolic Scheme

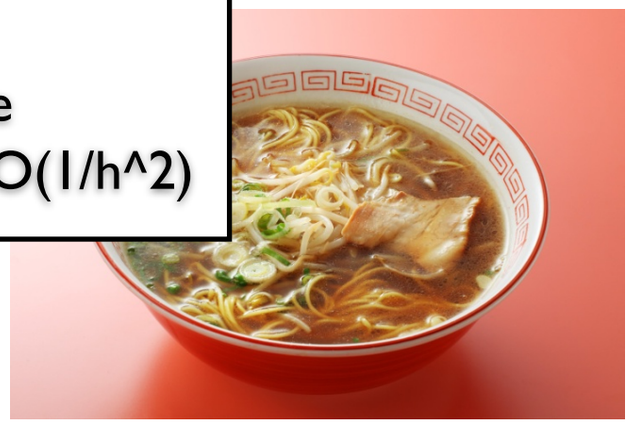
Steady, Unsteady by implicit
- Accurate gradients
- dt = O(h), Jac = O(1/h)

JCP2007, 2010, 2012
AIAA2009, 2011, 2013

Traditional Scheme

Steady, Unsteady
- Robust and accurate
- dt = O(h^2), Jac = O(1/h^2)

C&F2011
AIAA2010, 2011



Numerical Solution to High-Order PDEs

It all starts by discretizing the hyperbolic system.