1163-35-71   **Ruoxuan Yang***, 235 Albany Street, 1023B, Cambridge, MA 02139. *Shock formation of the Burgers-Hilbert equation.*

We prove finite time blowup of the Burgers-Hilbert equation. We construct smooth initial data with finite H^5-norm such that the L^∞-norm of the spacial derivative of the solution blows up. The blowup is an asymptotic self-similar shock at one single point with an explicitly computable blowup profile. The blowup profile is a cusp with Hölder 1/3 continuity. The blowup time and location are described in terms of explicit ODEs. Our proof uses a transformation to modulated self-similar variables, the quantitative properties of the stable self-similar solution to the inviscid Burgers equation, an L^2-estimate in self-similar variables, and pointwise estimates for Hilbert transform and for transport equations. (Received August 07, 2020)