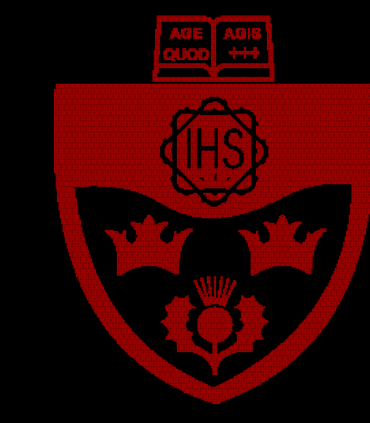


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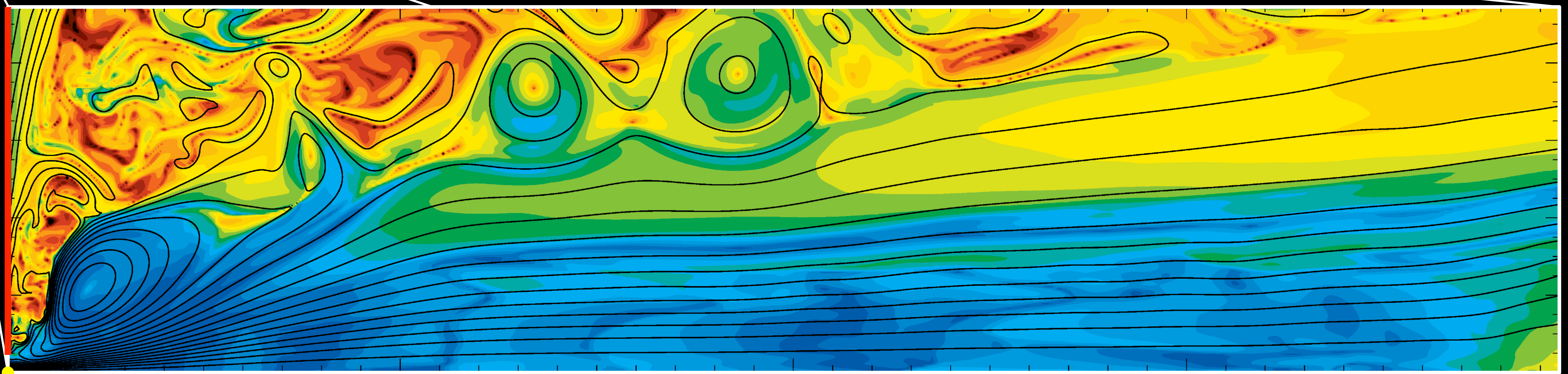
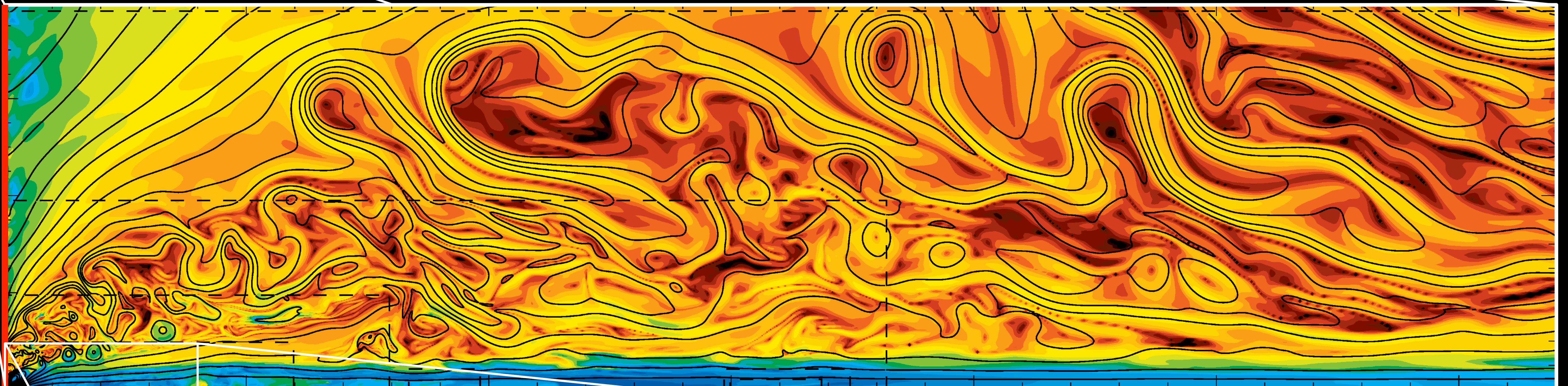
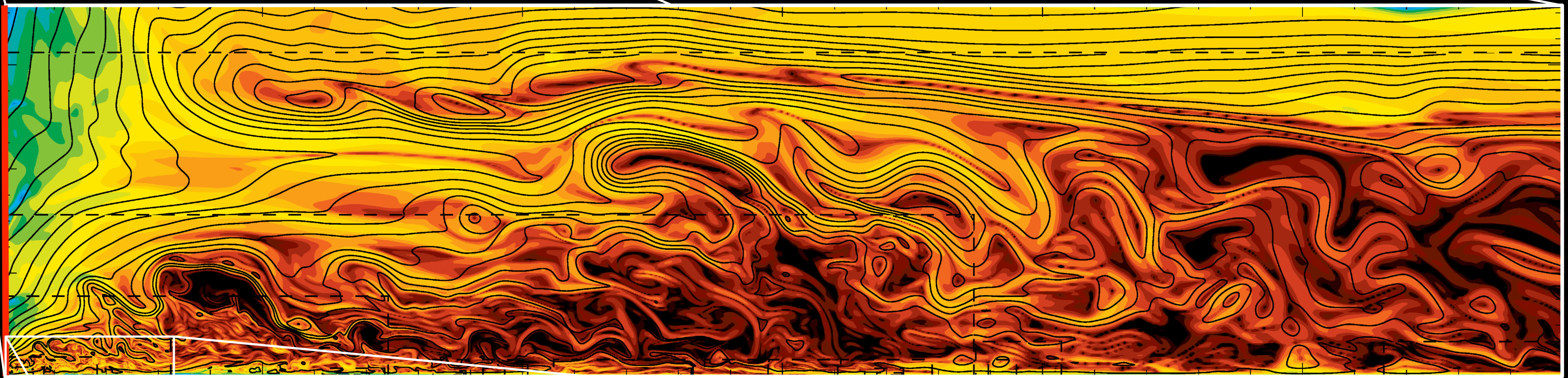
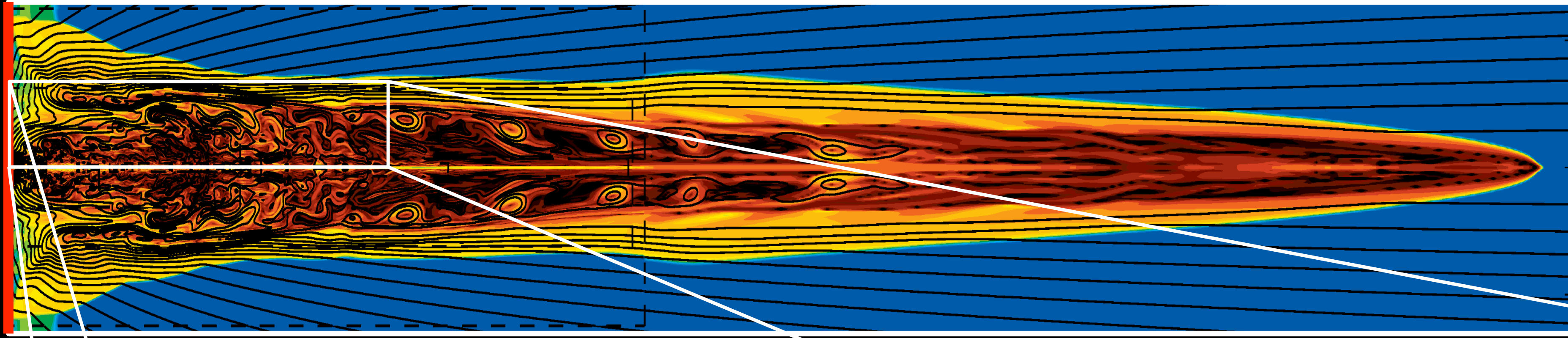
An Adaptive Zone Eulerian Scheme
for computational fluid dynamics



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$\beta = 640$, $t = 100$ yr

An axisymmetric protostellar jet launched from an accretion disc (red line on left boundary) surrounding a half-solar mass protostar (yellow dot, lower left corner of lower panel) with peak magnetic field strength of 2.5 G ($\beta = 640$; extremely weak). Flow is from left to right. Shown in colour is the Alfvén Mach number with black magnetic field lines superposed. Dashed black lines indicate subgrid boundaries. Outflow is launched by the combined effects of magnetism, rotation, pressure, and gravity near the inner radius of the accretion disc (bottom panel; 4 AU by 1 AU) and propagates outward to form a supersonic ($M_{\text{int}} = 3.0$) jet on observational scales (top panel; 1,250 AU by 260 AU).

Credits: Jon Ramsey and David Clarke, 2015; <http://www.ica.smu.ca/zeus3d/rc10>

