

THE SMALL VISCOSITY METHOD AND CRITERIA
FOR THE EXISTENCE OF SHOCK WAVES
IN RELATIVISTIC MAGNETIC
HYDRODYNAMICS

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S u m m a r y

We obtain criteria for the existence of shock waves (SWs) in relativistic magnetic hydrodynamics with no suppositions about the convexity of the equation of state. The method of derivation involves the consideration of a continuous SW profile in the presence of a Landau—Lifshits relativistic viscosity tensor with both nonzero viscosity coefficients η and ζ . We point out that the supposition of the existence of a viscous profile with only one nonzero coefficient ($\eta = 0$) appears to be too restrictive and leads to the loss of some physical solutions.