

**CONVERGENCE OF THE ‘RELATIVISTIC’ HEAT  
EQUATION TO THE HEAT EQUATION AS  $c \rightarrow \infty$**

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*Abstract*

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We prove that the entropy solutions of the so-called relativistic heat equation converge to solutions of the heat equation as the speed of light  $c$  tends to  $\infty$  for any initial condition  $u_0 \geq 0$  in  $L^1(\mathbb{R}^N) \cap L^\infty(\mathbb{R}^N)$ .

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*Key words.* Entropy solutions, flux limited diffusion equations, heat equation.