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AN INTERACTING PARTICLES PROCESS FOR BURGERS EQUATION ON THE CIRCLE

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ABSTRACT. We adapt the results of Oelschläger (1985) to prove a weak law of large numbers for an interacting particles process which, in the limit, produces a solution to Burgers equation with periodic boundary conditions. We anticipate results of this nature to be useful in the development of Monte Carlo schemes for nonlinear partial differential equations.

A.M.S. (MOS) Subject Classification Codes. 35, 47, 60.

Key Words and Phrases. Burgers equation, kernel density, Kolmogorov equation, Brownian motion, Monte Carlo scheme.

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