A Gamma-convergence Argument for the Blow-up of a Non-local Semilinear Parabolic Equation

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A Gamma-convergence argument for the blow-up of a non-local semilinear parabolic equation Abstract: In this talk we study a simple non-local semilinear parabolic equation with Neumann boundary conditions. We give local existence result, and global existence for small initial data. A natural non increasing in time energy is associated to this equation. We prove that the solution blows up at finite time T, if and only if its energy is negative at some time before T. The proof of this result is based on a Gamma-convergence technique.