Timo Salin: *On a refined asymptotic analysis for the quenching problem*; Helsinki University of Technology Institute of Mathematics Research Reports A457 (2003).

Abstract: *In this paper we study a refined asymptotic analysis for the quenching problem of the reaction diffusion equation* $u_t - u_{xx} = f(u)$ *with Cauchy-Dirichlet data, in the case where we have a logarithmic singularity, i.e.,* $f(u) = \ln(\alpha u)$, $\alpha \in (0,1)$. *Our main goal is to give a precise asymptotic expression for the solution in a backward space-time parabola near a quenching point.*

AMS subject classifications: 35K55, 35K57, 35B40

Keywords: Reaction-diffusion equation, quenching, asymptotic behavior of solutions, blow-up

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