

Mikko Parviainen: *Global higher integrability for parabolic quasiminimizers in nonsmooth domains*; Helsinki University of Technology, Institute of Mathematics, Research Reports A499 (2006).

Abstract: *We study the global higher integrability of the gradient of a parabolic quasiminimizer with quadratic growth conditions. Our objective is to show that the gradient belongs to a higher Sobolev space than assumed a priori if the lateral boundary satisfies a capacity density condition and boundary values are smooth enough. We derive estimates near the lateral and the initial boundary.*

AMS subject classifications: Primary: 35K60; Secondary: 35K15, 35K55, 49N60

Keywords: nonlinear parabolic system, heat equation, capacity density, initial value problem, reverse Hölder inequality

Correspondence

Mikko.Parviainen@tkk.fi

ISBN 951-22-8192-9

ISSN 0784-3143

Helsinki University of Technology

Department of Engineering Physics and Mathematics

Institute of Mathematics

P.O. Box 1100, 02015 HUT, Finland

email:math@hut.fi <http://www.math.hut.fi/>