

数理解析研究所講究録 1740

変分問題の展開—

幾何学的勾配流と臨界点理論の新潮流

京都大学数理解析研究所

2011年5月

*RIMS Kôkyûroku 1740*

*Progress in Variational Problems*

*- New Trends of Geometric Gradient Flow  
and Critical Point Theory -*

*June 7~9, 2010*

*edited by Futoshi Takahashi*

*May, 2011*

*Research Institute for Mathematical Sciences*

*Kyoto University, Kyoto, Japan*

This is a report of research done at the Research Institute for Mathematical Sciences, Kyoto University. The papers contained herein are in final form and will not be submitted for publication elsewhere.

変分問題の展開－幾何学的勾配流と臨界点理論の新潮流

Progress in Variational Problems

- New Trends of Geometric Gradient Flow and Critical Point Theory -

RIMS 研究集会報告集

2010年6月7日～6月9日

研究代表者 高橋 太 (Futoshi Takahashi)

副代表者 石渡 通徳 (Michinori Ishiwata)

" 岡部 真也 (Shinya Okabe)

目 次

1. Generalized minimal surfaces in Minkowski spaces	1
U. Padova	Matteo Novaga
2. Gradient Flow for the Helfrich Variational Problem	11
埼玉大・理工学 (Saitama U.)	長澤 壯之 (Takeyuki Nagasawa)
3. On evolving hypersurfaces with boundaries by mean curvature flow	24
室蘭工大 (Muroran Inst. Tech.)	高坂 良史 (Yoshihito Kohsaka)
4. Various gradient flows in the plane — modeling, applications and polygonal analogues	37
宮崎大・工 (U. Miyazaki)	矢崎 成俊 (Shigetoshi Yazaki)
5. Existence and non-existence for nonlinear Schrödinger equations	52
大阪市大・数学研 (Osaka City U.)	佐藤 洋平 (Yohei Sato)
6. A NEW APPROACH TO LIOUVILLE THEOREMS FOR ELLIPTIC INEQUALITIES	64
U. Chicago	Scott N. Armstrong
U. Paris 10	Boyan Sirakov
7. A new two-phase fluid problem with surface energy	74
北大・理学 (Hokkaido U.)	利根川 吉廣 (Yoshihiro Tonegawa)
8. THE METHOD OF NEHARI MANIFOLD REVISITED	89
Stockholm U.	Andrzej Szulkin

9.	Dual variational approach to a quasilinear Schrödinger equation arising in plasma physics -----	103
	静岡大・工 (Shizuoka U.)	足達 慎二 (Shinji Adachi)
	京産大・理 (Kyoto Sangyo U.)	渡辺 達也 (Tatsuya Watanabe)
10.	A note on the asymptotic formula for solutions of the linearized Gel'fand problem -----	120
	宮崎大・工 (U. Miyazaki)	大塚 浩史 (Hiroshi Ohtsuka)
11.	On the attainability for the best constant of the Sobolev-Hardy type inequality -----	141
	Nat. Taiwan U.	Chang-Shou Lin
	大阪市大・数学研 (Osaka City U.)	和田出 秀光 (Hidemitsu Wadade)
12.	A SEMILINEAR SCHRÖDINGER EQUATION WITH AHARONOV-BOHM MAGNETIC POTENTIAL -----	158
	Stockholm U.	Andrzej Szulkin
13.	MULTIPLE SIGN-CHANGING SOLUTIONS FOR AN ASYMPTOTICALLY LINEAR ELLIPTIC PROBLEM -----	167
	横浜国大・工学 (Yokohama Nat. U.)	塩路 直樹 (Naoki Shioji)