



# Variationsrechnung

Sommersemester 2007

DOROTHEE KNEES UND ALEXANDER MIELKE

## Vorlesungstermine:

Mittwoch 9:15-10:45 Uhr, Raum 1'304 (ESZ RUD 26)

Donnerstag 11:00-12:30 Uhr, Raum 3.011 (JvN, RUD25)

Übungen: Mittwoch 11:00-12:30 Uhr, Raum 3.006 (JvN, RUD 25)

Funktionalanalytischen Grundlagen: [Alt85]

Wichtige Basiswerke: [ET76, Dac89, Tro96, Dac04]

Vertiefungsmöglichkeiten: [BP86, Str90, BB92, GH96a, GH96b]

## Literatur

- [Alt85] H. W. ALT. *Lineare Funktionalanalysis*. Springer-Verlag, Berlin, 1985.
- [BB92] P. BLANCHARD and E. BRÜNING. *Variational methods in mathematical physics*. Texts and Monographs in Physics. Springer-Verlag, Berlin, 1992.
- [BP86] V. BARBU and T. PRECUPANU. *Convexity and optimization in Banach spaces*. D. Reidel Publishing Co., Dordrecht, third edition, 1986.
- [Dac89] B. DACOROGNA. *Direct Methods in the Calculus of Variations*. Springer-Verlag, Berlin, 1989.
- [Dac04] B. DACOROGNA. *Introduction to the calculus of variations*. Imperial College Press, London, 2004.
- [ET76] I. EKELAND and R. TEMAM. *Convex Analysis and Variational Problems*. North Holland, 1976.
- [GH96a] M. GIAQUINTA and S. HILDEBRANDT. *Calculus of Variations I. The Lagrangian Formalism*. Springer, Berlin, 1996.
- [GH96b] M. GIAQUINTA and S. HILDEBRANDT. *Calculus of Variations II. The Hamiltonian Formalism*. Springer, Berlin, 1996.
- [Str90] M. STRUWE. *Variational methods. Applications to nonlinear partial differential equations and Hamiltonian systems*. Springer-Verlag, Berlin, 1990.
- [Tro83] J. L. TROUTMAN. *Variational calculus with elementary convexity*. Undergraduate Texts in Mathematics. Springer-Verlag, New York, 1983. With the assistance of W. Hrusa.
- [Tro96] J. L. TROUTMAN. *Variational calculus and optimal control*. Undergraduate Texts in Mathematics. Springer-Verlag, New York, 1996.