



## SFB Seminartag

### ZEIT:

15.11.2005, 15:00 Uhr - 18:00 Uhr

### ORT:

im AEI in Golm, Max-Planck-Campus  
Am Mühlenberg 1, 14476 Golm  
Central Building, room number Z-050

### PROGRAMM:

15:00 - 16:00 **Prof. Dr. Klaus Ecker (FU)**

#### **Monotone quantities for geometric evolution equations**

16:30 - 17:30 **Dr. Joachim Weber (HU)**

#### **Floer homology of cotangent bundles**

Given a closed manifold, consider its cotangent bundle equipped with the canonical symplectic structure. An almost complex structure is provided by choosing a Riemannian metric on the manifold. In this situation one can define Floer homology associated to physical Hamiltonians of the form kinetic plus potential energy and show that it is naturally isomorphic to the singular homology of the free loop space of the manifold. We review the three isomorphisms constructed by Viterbo, Salamon-Weber, and Abbondandolo-Schwarz. Then we discuss some applications, for instance existence of noncontractible periodic orbits of a certain class of Hamiltonians.

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