



SFB-Seminar

ZEIT:

31.5.2011, 16:00 Uhr - 19:00 Uhr

ORT:

Konrad-Zuse-Zentrum für Informationstechnik Berlin
Takustrasse 7
14195 Berlin-Dahlem

PROGRAMM:

16:00 - 17:00 **Prof. Spencer Bloch, PhD**

Renormalization via algebraic geometry

The theory of limiting mixed hodge structures in algebraic geometry yields a canonical renormalization scheme for feynman integrals with at worst logarithmic divergences. I will talk about a joint paper with Dirk Kreimer working out the details in the case of trivial masses and momenta. From this viewpoint, Feynman rules are naturally interpreted as 1-parameter subgroups in the algebraic group associated to the Hopf algebra of graphs.

17:00 - 17:30 Kaffeepause

17:30 - 18:30 **Dr. Theodora Bourni**

A criterion on embeddedness of surfaces with 'small' mean curvature

In a paper of '02, Ekholm, White and Wienholtz showed that a minimal surface bounded by a simple closed curve of total curvature at most 4π is embedded. In this talk I will describe some results that extend this theorem to surfaces whose mean curvature has small L^p norm ($p > 2$). As an application, for surfaces in \mathbb{R}^3 , I will derive curvature estimates and a bound on the genus of such surfaces. This is a joint work with G. Tinaglia.

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