

Seminar
Computational Algebra
Lehrstuhl D für Mathematik
Prof. Dr. Eva Zerz, Dr. Viktor Levandovskyy

Vortragsankündigung

Zeit und Ort: **Mi., 24.02.2010, 10:00 – 11:30** in **Fo 7**, Kármán Gebäude

Vortragender: **Prof. Oliver Schnetz, Universität Erlangen-Nürnberg**

Titel: **Computations of Feynman amplitudes with D -module theory**

Inhalt: Quantum field theory (QFT) periods are — although readily defined — surprisingly inaccessible numbers. Only very few of them can be calculated. Some more may be determined by so-called ‘exact numerical methods’. That is, calculate a numerical approximation for the period and let the computer guess the exact result.

All QFT-periods found this way are integer linear combinations of multiple zeta values (MZV’s). But for more complicated periods the known numerical methods fail. Are these numbers MZV’s, too? Or do we only see MZV’s because we can determine nothing but the simplest periods?

D -module theory gives us (in principle) approximations for all QFT-periods with exponential convergence. Will this make it easy to answer the above questions? Everything depends on our ability to handle the computer-algebraic side of the problem...

Wir laden alle Interessierten herzlich zu diesem Vortrag ein.