Prof. Dr. Dirk Kreimer (IHES, Frankreich)
The gravity powercounting and ideals in perturbative gravity

TIME:
9 Apr 2009, 15:00 - 17:00

LOCATION:
HU, Institut für Mathematik, Rudower Chaussee 25, 12489 Berlin, 3.001 (ground floor)

We emphasize the very particular powercounting which any perturbative expansion of gravity has. We then analyze this expansion using techniques introduced in the previous talks, and in particular identify co-ideals in this expansion. We then show how these co-ideals relate to co-ideals in the core Hopf algebra recently identified in the formulation of renormalization as a limiting mixed Hodge structure.

Recursive relations of on-shell tree-level amplitudes in many gluon or graviton scattering amplitudes respect the above co-ideals. We discuss how multi-leg and multi-loop expansions come together here.

For further information please have a look at
http://math.bu.edu/people/dkreimer/structure.html.

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