

Gemeinsame Veranstaltung von
Humboldt-Universität zu Berlin, Institut für Physik
(Theorie der Elementarteilchen / Computerorientierte Theoretische Physik)
DESY, Zeuthen

<p style="text-align: center;">SEMINAR Feldtheorie auf dem Gitter und Phänomenologie der Elementarteilchen</p>

Am Montag, dem **19. April 2010**, um **16:00 Uhr s.t.** spricht

Andreas Athenodorou

NIC, DESY Zeuthen

zum Thema

Closed $SU(N)$ Flux Tubes as Bosonic Strings

Abstract

We present our latest findings on the excitation spectrum of the closed flux tube in $D=2+1$ and $D=3+1$ $SU(N)$ gauge theories with the flux in the fundamental representation of colour. In $D=2+1$ the states are described by the quantum numbers of parity and longitudinal momentum and in $D=3+1$ there is the additional quantum number of spin. For both dimensions we are able to obtain quite accurate results for a large number ($O(10)$) of states. In $D=2+1$ most of the low-lying states are described by the spectrum of Nambu-Goto bosonic string in flat space-time, while some other states show small deviations that vanish quickly with the flux tube length. In $D=3+1$ we find that most of the low-lying states are well described by Nambu-Goto; so far this resembles our findings in $D=2+1$. However, and in contrast to the situation in $D=2+1$, we see that there are some states with particular quantum numbers, that show large deviations from the Nambu-Goto spectrum and which display a very slow (if any) approach to that spectrum as the flux tube length increases.

Ort: DESY, Hörsaal 3
Platanenallee 6, 15738 Zeuthen

Web: <http://latticeseminar.desy.de/>