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Im Rahmen der

AG Komplexe Analysis

laden wir zu folgendem Vortrag ein:

Minimal biquadratic energy of 5 particles on the 2-sphere

(Prof. Alexander Tumanov, University of Illinois, USA)

am **Montag, den 5.11.2012, um 16 Uhr c.t. in Raum D.13.15**.

Abstract: Consider n points on the unit 2-sphere. The potential energy of the interaction of two points is a function $f(r)$ of the distance r between the points. The total energy E of n points is the sum of the pairwise energies. The question is how to place the points on the sphere to minimize the energy E. For the Coulomb potential $f(r) = 1/r$, the problem goes back to Thomson (1904). The results for $n < 5$ are simple and well known. We focus on the case $n = 5$, which turns out to be difficult.

In this case, the following results have been obtained:

- Dragnev, Legg, and Townsend give a solution of the problem for $f(r) = -\log r$ known as Whyte's problem.
- Hou and Shao give a rigorous computer-aided solution for $f(r) = -r$.
- R. Schwartz gives a rigorous computer-aided solution of Thomson's problem.

We give a solution for biquadratic potentials.

Alle Interessenten sind herzlich eingeladen!

gez. Prof. N. Shcherbina