WORKSHOP ON T-VARIETIES
03.08.2006–04.08.2006

Speakers:

Klaus Altmann (Berlin)
René Birkner (Berlin)
Hendrik Süss (Cottbus)
Robert Vollmert (Tübingen)

Location: Freie Universität
Arnimallee 3, 14195 Berlin
Hörsaal 1

03.08.06 at 11.00 René Birkner
GIT and Chow Quotients by Tori
In this talk we will give a gentle introduction to invariant theory. In particular, categorical, good, and geometric quotients, as well as linearisations and \( (\text{sem})\text{stable points} \) will be defined. As an application, we will see how the torus \( T = \mathbb{C}^* \) acts on \( \mathbb{C}^n \) and that GIT-quotients are toric (fiberpolytopes). The Chow quotient is given by the Minkowski sum of them.

03.08.06 at 14.00 Klaus Altmann
Affine T-Varieties
We will look at affine toric varieties or \( \mathbb{C}^n \) as T-varieties and describe closed T-subvarieties. As a useful tool, we will give the general construction of polyhedral divisors and, in the special case of codimension 1 actions, we will compare these with toroidal varieties. Examples are the Russell cubic and certain non-normal surfaces.

03.08.06 at 16.00 Hendrik Süss
Morphisms and Gluing
The topics of this talk are morphisms among affine T-varieties, localization by homogeneous elements and open embeddings. We will have a look at divisorial fans; these will be illustrated by examples like toric vector bundles and compactifications of affine \( \mathbb{C}^n \)-surfaces.

04.08.06 at 10.30 Robert Vollmert
Grass(2,n) as a fansy divisor on \( M_{0,n} \)
We will describe Chow quotients and secondary polytopes and see that \( M_{0,n} \) equals the Chow quotient of Grass(2,n). Then we will calculate an affine chart of Grass(2,4) or of Grass(2,n) and have a look at the affine cone over a projective T-variety.

04.08.06 at 14.00
Open discussion on further topics

Organisers:

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Gavin Brown (Kent, UK) gdb@kent.ac.uk

To register: please email gdb@kent.ac.uk before 28 July 2006

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(There is no registration fee; meals are at participants’ own expense. There may be limited support for graduate students.)