Zgledi toričnih ploskev

Povzetek

V diplomskem delu sem predstavila štiri mrežne večkotnike, iz katerih konstruiramo štiri torične ploskve, ki so primer toričnih raznoterosti. Raznoterost je množica vseh točk, ki so skupne rešitve neke končne množice polinomskih enačb, kakor tudi množica skupnih ničel vseh polinomov iz ideala, ki ga generirajo pripadajoči polinomi. Na primerih teh štirih toričnih raznoterosti sem prikazala, kako lahko na dva načina izračunamo ideal toričnih raznoterosti. Opisala sem primer torične ploskve, prirejene pahljačam in pokazala, kako so limitne točke povezane z orbitami delovanja. To je vodilo do dokaza izreka o korespondenci med stožci in orbitami. Delovanje torusa sem podrobno predstavila tudi na štirih toričnih ploskvah, ki predstavljajo osnovo diplomskega dela. S pomočjo linearne projekcije sem podala še en primer torične ploskve, pri katerem sem se omejila le na realni del, kar omogoča grafični prikaz torične raznoterosti.

Examples of toric surfaces

Abstract

In this work I presented four lattice polygones, which are used to construct four toric surfaces, examples of toric varieties. Variety is a set of solutions of a finite set of polynomial equations and a set of common zeros of the polynomial from the ideal generated by the corresponding polynomials. This is the reason why I chose on these four toric varieties to demonstrate two different ways of computing the toric ideal. I presented an example of toric surface of a fan and showed how limit points are conected with the orbit action. This led to a proof of the theorem called Orbit-Cone Correspondence. I explained torus action on four toric surfaces that represent the base of this work. I used linear projection to add another example of toric surface, in which I limited myself to the real part, so I was able to present graphically the corresponding toric variety.

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