International Conference on non-Eucledian geometry and its applications

7th Bolyai-Gauss-Lobachevsky Conference

Cluj-Napoca (Kolozsvár), Romania, 5-9 July, 2010

1 Summary

The conference took place in Cluj-Napoca, at the Babes-Bolyai University, 5-9 July, 2010. Besides a number of plenary talks, the lectures were organized in two parallel sessions, one featuring lectures in mathematics, the other one in physics. The lectures on contact geometry and low dimensional topology were delivered in the mathematics session. The program (with the titles of the talks) is attached below. There were 50 participants on the conference, 21 lectures in the mathematics session, 8 directly related to contact and symplectic topology and algebraic geometry.

2 Description of the scientific content

The lectures on contact, symplectic and algebraic geometry were as follows

- Paltin Ionescu: *Around the Hartshorne conjecture*

- András Stipsicz: *A topological definition of Heegaard Floer homology*

- Daniel Matei: *Plane curves and cohomology*

- Florin Ambro: *Singularities in birational geometry*

- Stefan Papadima: *Form a conjecture of Lang to finiteness properties of Torelli groups*

- Vera Vértesi: *Legendrian and transverse classification of twist knots*

- Paolo Ghiggini: *Heegaard Floer equals ECH*

- Bijan Sahamie: *Contact geometry and Heegaard Floer theory*

3 Impact of the event on future developement of the field

The meeting has provided the excellent opportunity to bring together geometers from various parts of Eastern Europe, provide an update on many dynamically developing fields of geometry, and of low dimensional topology. The sessions were followed by live discussions, and hopefully potential collaborations on specific problems have been initiated.

The organizers also provided the possibility for graduate students to participate on the event, and for them the lectures helped to orient among the many rapidly developing results of the recent past of (low dimensional) topology and geometry.

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