# ICM 1998, Berlin, Aug. 18–27

## Abstracts of Short Communications and Posters

### Section:

## 17. Control Theory and Optimization

1991 MS Classification: 49, 52, 90

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**On Hausdorff continuity of convex polynomial mappings**

We consider the following point-to-set mappings

$$A(\lambda) = \{\mathbf{x} \in E_n \mid f_i(\mathbf{x}) \leq \lambda_i,\ i \in I = \{1, \dots, m\}\},\ \lambda \in \Lambda,$$

where $\Lambda = \{\lambda \in E_m \mid A(\lambda) \neq \emptyset\}$ and $f_i :\ E_n \to E_1$ are convex polynomials. It is proved here that, generally, such mappings are neither upper nor lower semicontinuous in the sense of Hausdorff at boundary points of set $\Lambda$ even if these mappings are quasi-bounded, i. e. if the Hausdorff distance between sets $A(\lambda)$ and $A(\lambda')$ is finite for $\forall \lambda, \lambda' \in \Lambda$.

Reference: E. G. Belousov, and V. G. Andronov, Solvability and stability of polynomial-programming problems. Moscow University publishers: Moscow, 1993. (in Russian).