

## Toposym 2

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### Two theorems of the descriptive theory of point sets

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## TWO THEOREMS OF THE DESCRIPTIVE THEORY OF POINT SETS

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**Theorem 1** ([1]). *In a non-countable perfectly normal bicomact space no class of the Borel classification of points-sets is void.*

Theorem 2 concerns  $\mathcal{A}$ -sets (or Suslin-sets); its proof was accomplished by my student A. Elkin (to appear in Dokl. Akad. Nauk SSSR, 1967).

**Theorem 2.** *Each  $\mathcal{A}$ -set in a complete metric space is either a  $\sigma$ -discrete set or contains the Cantor perfect set.*

(Remark: no assumptions of separability are needed.)

The classical result of Alexandroff-Hausdorff follows from this theorem as well as the theorem of A. H. Stone affirming the same about Borel sets in complete metric spaces.

### References

- [1] *В. И. Пономарев: О борелевских множествах в совершенно-нормальных бикомпактах Докл. Акад. Наук СССР 170 (1966), 520—523.*