

Toposym 1

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On perfect compactifications of topological spaces

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ON PERFECT COMPACTIFICATIONS OF TOPOLOGICAL SPACES

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The following theorem gives a stronger result than a theorem of S. EILENBERG and K. KURATOWSKI contained in his communication at the Symposium.

Theorem. *Let X_1, X_2 be connected Tychonoff spaces and Y_1, Y_2 any compactifications of them. If $H^1 Y_i = 0$ and $\text{ind}(Y_i \setminus X_i) = 0$, $i = 1, 2$, then every homeomorphism $h : X_1 \rightarrow X_2$ has an extension $\tilde{h} : Y_1 \rightarrow Y_2$ which is a homeomorphism.*

This theorem follows from the fact that Y_i is equal to the minimal perfect compactification μX_i defined in the author's note „О совершенных бикомпактных расширениях“, Докл. АН СССР, 137, No 1, (1961), 39–41.