

CICHOŃ'S MAXIMUM WITH EVASION NUMBER

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ABSTRACT

For a long time it had been an open problem whether all the cardinal invariants in Cichoń's diagram can be separated simultaneously (except for the two dependent numbers $\text{add}(\mathcal{M})$ and $\text{cof}(\mathcal{M})$), until it was positively solved recently by the construction of such a simultaneous separation model, which is called Cichoń's maximum. The aim of our study is to add other cardinal invariants to Cichoń's maximum and we focus on the evasion number \mathfrak{e} . We show that \mathfrak{e} can be added to Cichoń's maximum with a distinct value in the following order $\aleph_1 < \text{add}(\mathcal{N}) < \text{cov}(\mathcal{N}) < \mathfrak{b} < \mathfrak{e} < \text{non}(\mathcal{M}) < \text{cov}(\mathcal{M}) < \mathfrak{d} < \text{non}(\mathcal{N}) < \text{cof}(\mathcal{N}) < 2^{\aleph_0}$.