

ROSENTHAL FAMILIES AND THE CARDINAL INVARIANTS OF CICHÓN'S DIAGRAM

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Joint work with Piotr Koszmider. A family $\mathcal{R} \subseteq [\omega]^\omega$ is Rosenthal if for every matrix $M = (m_{i,j})_{i,j \in \omega}$ of non-negative numbers such that for every $i \in \omega$, $\sum_{j \neq i} m_{i,j} \leq 1$, there is a $A \in \mathcal{R}$ such that for every $i \in A$, $\sum_{j \in A \setminus \{i\}} m_{i,j} \leq \frac{1}{2}$. H. Rosenthal proved that $[\omega]^\omega$ is a Rosenthal family. In this talk we will study the cardinal invariant \mathfrak{ros} , the smallest size of a Rosenthal family. We will mention some basic properties of these families which will lead us to compare \mathfrak{ros} with the cardinal invariants related to the ideals of the Meager sets and the Null sets in the reals. Finally we will use a forcing argument to show that \mathfrak{ros} is a cardinal invariant which is consistently different from the cardinal invariants in Cichoń's diagram.

REFERENCES

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