
On a clustering of the integers

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Our talk is based on joint works with S. Akiyama (Tsukuba University, Japan) and L. Aszalós, and L. Hajdu (University of Debrecen).

Let A be a finite non-empty set, and let \sim be a symmetric binary relation on A . Consider a partition P of A . Two distinct elements $a, b \in A$ are said to be in conflict with respect to the partition P either if they belong to the same class of P , but $a \not\sim b$, or they belong to different classes of P , although $a \sim b$. The goal of correlation clustering is to find a partition with minimal number of conflicts.

First we show some general, density results. Next we concentrate on the case when A is the set of positive integers as well as the set of S -integers with a finite set of primes, which are equipped with the coprimality relation. It turns out that the largest class of the correlation clustering behaves completely differently.