



ON THE GENERALIZATION OF THE FROBENIUS PROBLEM

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Abstract of Talk: Consider $a_1, a_2, \dots, a_n \in \mathbb{N}$ with $\gcd(a_1, \dots, a_n) = 1$. Let S be $\{\sum_i a_i x_i \mid x_i \in \mathbb{N}_0, i \in [1, n]\}$, the numerical monoid generated by the a_i . Then there exists a number g such that $g \notin S$ and for $y \in \mathbb{N}$, $y > g \Rightarrow y \in S$.

Finding g is the classical Frobenius problem (sometimes called the Frobenius Coin-Change problem), a subject heavily studied in literature. In our talk, instead of numbers in \mathbb{N} , we consider vectors in \mathbb{Z}^r . Using this approach, we generalize many one-dimensional theorems proven in earlier papers, and prove new structural facts unique to higher-dimensional cases.

The research group for this project consisted of Jeffrey Amos (KSU), Iuliana Pascu (Wellesley), Enrique Trevino (UTEP), and Yan Zhang (Harvard). The work for this project took place during the 2005 summer at the Trinity University REU (Research Experiences for Undergraduates), under the guidance of Professor Vadim Ponomarenko.