1141-05-83 **Vladislav Taranchuk*** (vladtar@udel.edu) and **Craig M Timmons** (craig.timmons@csus.edu). *The Anti-Ramsey Problem for the Sidon equation.*

Ramsey problems on the integers are an important part of Ramsey Theory which includes well known results such as Schur's Theorem and Van der Waerden's Theorem. In this talk, we will discuss a Ramsey problem on the integers that concerns the Sidon equation $X + Y = Z + T$. Given a coloring c of the first n positive integers, one can ask how many monochromatic solutions must there be to the Sidon equation. This question was answered by Saad and Wolf who initiated a rather general study of such problems. Motivated by Anti-Ramsey numbers in graph theory, we consider the problem of maximizing the number of rainbow solutions so the Sidon equation over all colorings of $\{1, 2, \ldots, n\}$ with k colors. (Received July 17, 2018)