

1154-11-1242 **Max A Alekseyev*** (maxal@gwu.edu). *On partitions into squares of distinct integers whose reciprocals sum to 1.*

In 1963, Ron Graham proved that all integers greater than 77 (but not 77 itself) can be partitioned into distinct positive integers whose reciprocals sum to 1. He further conjectured that for any sufficiently large integer, it can be partitioned into squares of distinct positive integers whose reciprocals sum to 1. In this study, we present an algorithm for finding such partitions and establish the exact bound for their existence by proving that 8542 is the largest integer that does not have such a representation. (Received September 14, 2019)