

## ON NEW FORMULAS FOR THE ROGERS-RAMANUJAN IDENTITIES

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**Abstract:** In a previous work we presented a correspondence between unrestricted partitions of  $n$  and the number of representations of  $m$  as a  $t$ -squared partition (defined as the frequency of  $m$ ), for  $m$  in the interval  $[1, n^2 - 1]$ . Here we want to go a step further presenting also correspondences between the Rogers-Ramanujan identities and frequency of numbers also represented by  $t$ -squared partitions.

**Keywords and Phrases:** Partitions, Matrix Representation, Partitions Identities.

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### 1. Introduction

The relation between partitions and two-line matrices started at the beginning of the last century with Frobenius [4], and were further developed by Andrews [1]. A new approach was introduced in Mondek-Ribeiro-Santos [7], also relating partitions

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