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Ashish K. Srivastava* (ashish@math.ohiou.edu), Department of Mathematics, Morton-564D, Ohio University, Athens, OH 45701, and **Steve Szabo**. *Matching Columns in a Cyclically Repeated Pattern of 3 Colors*.

We study following problem: consider coprime positive integers p_1, \dots, p_n and a rectangular array of balls of m different colors with the i th row containing p_i balls of each color cyclically repeated. The problem is to find the number of columns having balls of same color. This problem is of great importance in Molecular biology. The complete solution of the problem is known in the case $m = 2$. We give the complete solution to the problem for $m = 3$ without assuming any additional conditions. (Received July 30, 2006)