COMBINATORICS ON FINITE PARTIAL WORDS WITH ZERO PALINDROMIC DEFECT

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Abstract: Many classes of finite words have noticeable properties with reference to their palindromic factors and one among them are the words having zero palindromic defect i.e., words rich in palindromes. A word equal to its reversal is a palindrome. Partial words and palindromes play a vital role in molecular biology and language theory which inspired and initiated a unified study of rich words and partial words. In this paper we introduce rich partial word and discuss its combinatorial properties. We show that the palindromic richness of a partial word can be studied by including the positions of the missing symbols in that word. The significant difference between rich and rich partial word is that a rich word of length n contains exactly $n + 1$ distinct palindromic factors whereas a rich partial