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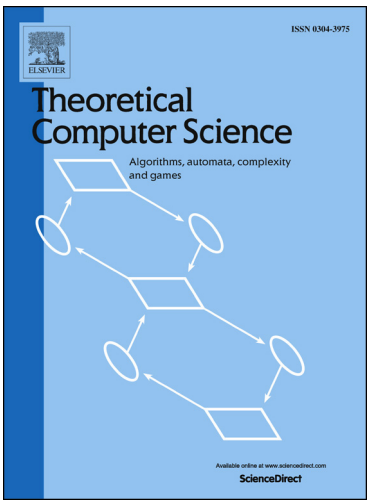

Non-Expandable Non-Overlapping sets of pictures

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Non-Expandable Non-Overlapping sets of pictures ⋆

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Abstract

The non-overlapping sets of pictures are sets such that no two pictures in the set (properly) overlap. They are the generalization to two dimensions of the cross-bifix-free sets of strings. Non-overlapping sets of pictures are non-expandable when no other picture can be added without violating the property. We propose a general construction method for non-expandable non-overlapping (NENO) sets based on some structural properties of NENO sets. As an application, we show a first example of a family of NENO sets.

Key words: Cross-bifix-free sets of strings, Non-overlapping sets, Unbordered pictures

1 Introduction

The digital technology that pervades every aspect of our lives is bringing communications more and more towards pictorial (two-dimensional) environments. The generalization to two dimensions of the formal study of all structures and special patterns of the strings is then gaining a growing interest in the scientific community. The two-dimensional strings are called *pictures* and they are

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