

THE COMPLEXITY OF THE MINIMUM k -COVER PROBLEM¹

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ABSTRACT

We consider the problem of determining the minimum cardinality collection of substrings, each of given length $k \geq 2$, that “cover” a given string x of length n . We show first, by reduction from 3-SAT, that this minimum k -cover problem is NP-complete. Then we propose further two greedy algorithms that are believed to have a logarithmic approximation factor.

Keywords: Cover, minimum k -cover, NP-complete, vertex cover

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