

Towards Understanding Exclusive Read

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Abstract

The ability of many processors to simultaneously read from the same cell of shared memory can give additional power to a parallel random access machine. In this paper, we describe a natural Boolean function of n variables and show that the expected running time of any probabilistic EROW PRAM computing this function is in $\Omega(\sqrt{\log n})$, although it can be computed by a CROW PRAM in $O(\log \log n)$ steps.