

Complexity classes in cellular computing with membranes

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Abstract

Given a class of recognizer membrane systems \mathcal{F} , the complexity class $\mathbf{PMC}_{\mathcal{F}}$ of all problem solvable in polynomial time by a family of P systems of type \mathcal{F} is presented. This complexity class is stable by polynomial time reduction, and offer a new way to attack the $\mathbf{P} \neq \mathbf{NP}$ conjecture, now inside the framework of the cellular computing with membranes.