

CSP dichotomy for special polyads

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For a digraph \mathbb{G} , the Constraint Satisfaction Problem with template \mathbb{G} , denoted $\text{CSP}(\mathbb{G})$, is the problem of deciding whether a given input digraph \mathbb{H} admits a homomorphism to \mathbb{G} . The CSP dichotomy conjecture of Feder and Vardi states that for any digraph \mathbb{G} , $\text{CSP}(\mathbb{G})$ is either in P or NP -complete. Barto, Kozik, Maróti and Niven have recently confirmed the conjecture for a class of oriented trees called special triads. We generalize their result, establishing the dichotomy for a broader class of oriented trees which we call special polyads.