Nowhere-zero 4-flow Petersen-minor free graphs

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Abstract

Tutte conjectured that every bridgeless graph without a Petersen minor admits a nowhere-zero 4-flow. Let $(P_{10})_{\bar{\mu}}$ be the graph obtained from the Petersen graph by contracting μ edges of a perfect matching. In this paper, we prove that every bridgeless $(P_{10})_{\bar{\mu}}$-minor free graph admits a nowhere-zero 4-flow for $\mu \geq 3$.