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Yanting Liang* (yliang@smcm.edu), Mathematics and Computer Science Department, St. Mary's College of Maryland, St. Mary's City, MD 20686. *Mod $(2p + 1)$ -orientations in graphs.*

An orientation of an undirected graph G is a mod $(2p + 1)$ -orientation if under this orientation, the net out-degree at every vertex is congruence to zero mod $2p + 1$. A graph H is mod $(2p + 1)$ -contractible if for any graph G that contains H as a subgraph, the contraction G/H has a mod $(2p + 1)$ -orientation if and only if G has a mod $(2p + 1)$ -orientation (thus every mod $(2p + 1)$ -contractible graph has a mod $(2p + 1)$ -orientation). Jaeger in 1984 conjectured that every $(4p)$ -edge-connected graph has a mod $(2p + 1)$ -orientation. It has also been conjectured that every $(4p + 1)$ -edge-connected graph is mod $(2p + 1)$ -contractible. I will introduce some recent results on mod $(2p+1)$ -orientations in graphs. (Received September 20, 2011)