On semiextensions and cycle double covers

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Abstract. An extension of a circuit $C$ is a circuit $D \neq C$ such that $D$ contains all the vertices of $C$. Fleischner showed there are cubic graphs with circuits which have no extensions. We introduce the concept of a semiextension, which is a circuit $D$ that contains some but not necessarily all of the vertices of $C$, and show that if every circuit has a semiextension, then the strong cycle double cover conjecture follows.