Semiextensions and Circuit Double Covers

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If G is a cubic graph and C is a circuit in G, we will call a circuit D in G a "semiextension" of C if (i) D is different from C, (ii) D intersects C, and (iii) for each vertex x of $V(C)V(D)$, if P is a minimal nontrivial path in G from x to some vertex (call it y) on either C or D, then there is also a path Q from x to y, such that all edges of Q belong to the symmetric difference of $E(C)$ and $E(D)$.

The definition is motivated by a previous and failed approach by Robertson and Seymour to the Circuit Double Cover Conjecture (CDCC). We propose to conjecture that a semiextension of C always exists, except when the obvious obstacles exist. Furthermore, we show that the truth of the CDCC would follow from this conjecture. We also note that a weakening of our conjecture would imply an unsolved conjecture by Sabidussi concerning the existence of a circuit decomposition compatible to a given Eulerian trail.