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**Michael W Schroeder\*** (schroederm@marshall.edu), Huntington, WV 25703. *Symmetric Hamilton Cycle Decompositions of General Cocktail Party Graphs*. Preliminary report.

Let  $G = K_{2n} - F$  be the cocktail party graph. A Hamilton cycle  $C$  of  $G$  is *symmetric* if  $C$  is invariant as an edge set under the involution defined by the missing 1-factor  $F$ . It has been shown that  $G$  has a symmetric Hamilton cycle decomposition if and only if  $n \equiv 1$  or  $2 \pmod{4}$ . We relax the definition of a symmetric Hamilton cycle to mean  $C$  is  $\phi$ -invariant, where  $\phi$  is an order 2 fixed-point free automorphism which commutes with the previous involution. We show that with this relaxation, every cocktail party graph has a relaxed symmetric decomposition. (Received November 28, 2011)