About Perfection of Circular Mixed Hypergraphs

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A mixed hypergraph is a triple H =(X,C,D), where X is the vertex set and each of C and D is a family of subsets of X, the C-edges and D-edges, respectively. A proper k-coloring of H is a mapping c : X --> {1,...,k} such that each C-edge has two vertices with a common color and each D-edge has two vertices with different colors. Maximum number of colors in a coloring using all the colors is called upper chromatic number . $\bar{\chi}$ (H). Maximum cardinality of subset of vertices which contains no C-edge is C-stability number $\alpha_C(H)$. A mixed hypergraph is called C-perfect if $\bar{\chi}$ (H)= $\alpha_C(H)$ for any induced subhypergraph H' . A mixed hypergraph H is called circular if there exists a host cycle on the vertex set X such that every edge (C-or D-) induces a connected subgraph on the host cycle. We give a characterization of C-perfect circular mixed hypergraphs.

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