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John Portin* (jportin@linfield.edu), **Alexander Sistko**, **Luke Naftz**, **Tyler Hays**, **Nino Barrett**, **Susan Rufai**, **Jennifer Firkins-Nordstrom** and **Chuck Dunn**. *The 1-relaxed game chromatic number of complete multipartite semi-Hamiltonian graphs.*

For a finite graph G , a non-negative integer d and a positive integer k , we define a game on G played by two players, Alice and Bob, who alternately colors the uncolored vertices of G . In the d -relaxed game a color α is legal for the vertex v if after v is colored alpha, the subgraph induced by all of the α colored vertices has maximum degree at most d . Alice wins the game if every vertex in G can eventually be colored. Otherwise, bob wins. The least k such that Alice has a winning strategy is called the d -relaxed game chromatic number. The 0-relaxed game chromatic number of complete multipartite graphs is known, and the 1-relaxed game chromatic number of complete multipartite graph is known for special graphs. We will show the 1-relaxed game chromatic number of complete multipartite semi-Hamiltonian graphs is $\lceil |G|/2 \rceil$ where $|G|$ is the size of the vertex set of G , and give criteria for determining whether a complete multipartite graph is semi-Hamiltonian. (Received September 25, 2012)