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David R Prier* (prierdr@auburn.edu), 302 Shelton Mill Rd., Auburn, AL 36830, and Peter D Johnson (johnspd@auburn.edu), 221 Parker Hall, Auburn University, AL 36849-5310. Graphs in which each independent dominating set intersects each minimum dominating set.

Every graph with an isolated vertex has the property given in the title. Let such a graph with no isolated vertices be called DI-pathological, for short. Previously it was discovered that the only DI-pathological graphs with domination number no greater than 2 are the complete bipartite graphs K(m,n) with m,n > 2. Here we describe a large class of DI-pathological connected graphs, and prove that the smallest connected DI-pathological graph with domination number 3 consists of two 4-cycles joined by a path of length 2. (Received September 16, 2009)