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Tightly embedded subsystems of fusion systems

Let G be a finite group. A *tightly embedded subgroup* of G is a subgroup K of even order such that $K \cap J$ is of odd order for each conjugate J of K distinct from K . Tightly embedded subgroups play an important role in the classification of the finite simple groups. We define a notion of a *tightly embedded subsystem* of a fusion system, and prove analogues, for 2-fusion systems, of theorems on tightly embedded subgroups. These results are part of a program to simplify portions of the classification of the finite simple groups using the theory of fusion systems. (Received November 29, 2011)