On the eviction model of eternal domination

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We study a variation of the eternal domination problem known as the eviction model. A set of guards begins by occupying a dominating set. An attacker chooses an occupied vertex, and the occupying guard must move to an adjacent, unoccupied vertex (provided one exists) in such a way that the guards' positions are also a dominating set. If the guards can respond to any infinite sequence of attacks in this way, the initial configuration is called an *eternal eviction set*. If any number of guards may move to adjacent vertices, a minimal set of guards is called an *m-eternal eviction set*. The size of a minimal eternal (m-eternal) eviction set is called the eviction (m-eviction) number. We examine the relationship between a graph's eviction number and m-eviction number and other graph parameters. In particular, we settle a conjecture on the eviction number of graph products, as well as study the behaviour of both eviction parameters in chordal graphs.

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