1086-VN-2900   **Jessie A. Deering*** (`deeringj@goldmail.etsu.edu`), **Teresa W. Haynes** (`haynes@etsu.edu`), **Stephen T. Hedetniemi** and **William Jamieson**. *Downhill Domination Numbers of Graphs.*

A path $\pi = v_1, v_2, \ldots v_{k+1}$ in a graph $G = (V, E)$ is a *downhill path* if for every i, $1 \le i \le k$, $deg(v_i) \ge deg(v_{i+1})$, where $deg(v_i)$ denotes the degree of vertex $v_i \in V$. The *downhill domination number* $\gamma_d(G)$ equals the minimum cardinality of a set $S \subseteq V$ having the property that every vertex $v \in V$ lies on a downhill path originating from some vertex in S. We investigate downhill domination numbers and related aspects of downhill paths in graphs. (Received September 26, 2012)

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