

## LOCATING MOBILE INTRUDERS USING DOMINATING SETS

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Using networks to model facilities one can be interested in determining the location of an intruder such as a thief or a saboteur. We assume that detection devices are available each of which in any given time period can determine the presence of such an intruder in the closed neighborhood of the vertex at which it is placed, but which of any neighboring vertices contains the intruder can not be determined.

In this talk we consider the problem of precisely determining the location of a mobile intruder. In particular, we consider a (minimum cardinality) dominating set  $S$  of vertex locations for such detection devices that will precisely determine the intruder's exact location either immediately or when the intruder moves to an adjacent vertex. Such sets are called 1-step locating-dominating sets.

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