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stealthy, then having weak barrier coverage with high probability may be enough to detect all intruders with high probability. Barrier Coverage With Wireless SensorsIf a sensor network guarantees that every penetrating object will be detected by at least k distinct sensors before it crosses the barrier of wireless sensors, we say the network provides k -barrier coverage. In this paper, we develop theoretical foundations for k -barrier coverage. Barrier coverage

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problem [6]- [10] has been widely discussed for wireless sensor networks (WSNs) in the past few years. A barrier constructed by a set of sensors in a given monitored region ...Barrier coverage with wireless sensors | Request PDFWireless sensor networks, barrier coverage, network topology. 1. INTRODUCTION The US-Mexicoborder stretchfor 2000miles(Figure1), much of it barely patrolled and protected only by ditches or barbed wire at best, while every day numerous aliens attempt cross the border illegally.Barrier Coverage With Wireless Sensors - MemphisIf a sensor network guarantees that every penetrating object will be detected by at least ϵ distinct sensors before it crosses the barrier of wireless sensors, we say the network provides ϵ -barrier coverage. In this paper, we develop theoretical foundations for ϵ -barrier coverage.CiteSeerX — Barrier coverage with wireless sensorsBARRIER COVERAGE WITH WIRELESS SENSOR NETWORKS Mohsen Eftekhari Hesari A thesis In the Department of Computer Science &

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where d bound is the minimum distance of the constructed barrier from the target.The Target-Barrier Coverage Problem in Wireless Sensor ...Barrier coverage has been widely used to detect intrusions in wireless sensor networks (WSNs). It can fulfill the monitoring task while extending the lifetime of the network. Though barrier coverage in WSNs has been intensively studied in recent years, previous research failed to consider the problem of intrusion in transversal directions.Achieving Crossed Strong Barrier Coverage in Wireless ...A barrier-cover of wireless sensors is a set of sensors located between two sides (e.g. top and bottom) such that an object moving from one side to the other side (from top to bottom or from bottom to top) has to be detected by at least one sensor. The barrier-coverage is uniquely different from the traditional sensor coverage since it does not ...Maximum lifetime dependable barrier-coverage in wireless ...We study the problem of barrier coverage with a wireless sensor network. Each sensor is modelled by a point in the plane

and a sensing disk or coverage area centered at the sensor's position. The barriers are usually modelled as a set of line segments on the plane. The barrier coverage problem is to add new sensors or move existing sensors on the barriers such that every point on every barrier ...Barrier Coverage with Wireless Sensor Networks - Spectrum ...Barrier coverage is a critical issue in wireless sensor networks (WSNs) for security applications, which aims to detect intruders attempting to penetrate protected areas. However, it is difficult to achieve desired barrier coverage after initial random deployment of sensors because their locations cannot be controlled or predicted. InBarrier Coverage in Wireless Sensor NetworksExisting solutions to sensor coverage mostly leverage the 0/1 disk model, i.e., in the area coverage problem, the basic 0/1 disk model is used to model sensors covering a 3D surface, and in barrier coverage, the same model is used to model mobile sensors forming a k-barrier.Target Coverage in Wireless Sensor Networks with

...Abstract—Barrier coverage is a critical issue in wireless sensor networks for security applications (e.g., border protection), the performance of which is highly related with locations of sensor nodes. Existing work on barrier coverage mainly assume that sensor nodes have accurate location information, however, little work explores the ...Fault Tolerant Barrier Coverage for Wireless Sensor NetworksRecently, barrier-coverage in wireless sensor networks is a critical issue because it can be used for various applications (e.g., intrusion detection and border protection).Local Barrier Coverage in Wireless Sensor Networks ...To address this problem, a dynamic barrier coverage (DBC) method combining inspection robot and wireless sensor network (WSN) is proposed to realize a low-cost, energy-saving and dynamic smart grid-oriented sensing system based on mobile wireless sensor network.Dynamic Barrier Coverage in a Wireless Sensor Network for ...classified into two categories: barrier coverage for static sensor nodes and barrier

coverage for mobile sensor nodes. The protocols are further classified based on the following criteria: the sensing range direction (omnidirectional vs. directional), the sensing model (boolean, probabilistic and full-view), and the coverage requirement ...Coverage Protocols for Wireless Sensor Networks: Review ...Barrier coverage is a critical issue in wireless sensor networks deployed in security applications (e.g., border protection), whose performance strongly depends on the locations of sensor nodes. Existing works on barrier coverage typically assume that sensor nodes have accurate location information, which is not reasonable or practical for many real sensor networks. If a sensor network guarantees that every penetrating object will be detected by at least k distinct sensors before it crosses the barrier of wireless sensors, we say the network provides k-barrier coverage. In this paper, we develop theoretical foundations for k-barrier coverage. [CiteSeerX — Barrier coverage with wireless sensors](#) Recently, barrier-

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