

A New Generation of Active Intrusion Detection System for Physical Protection

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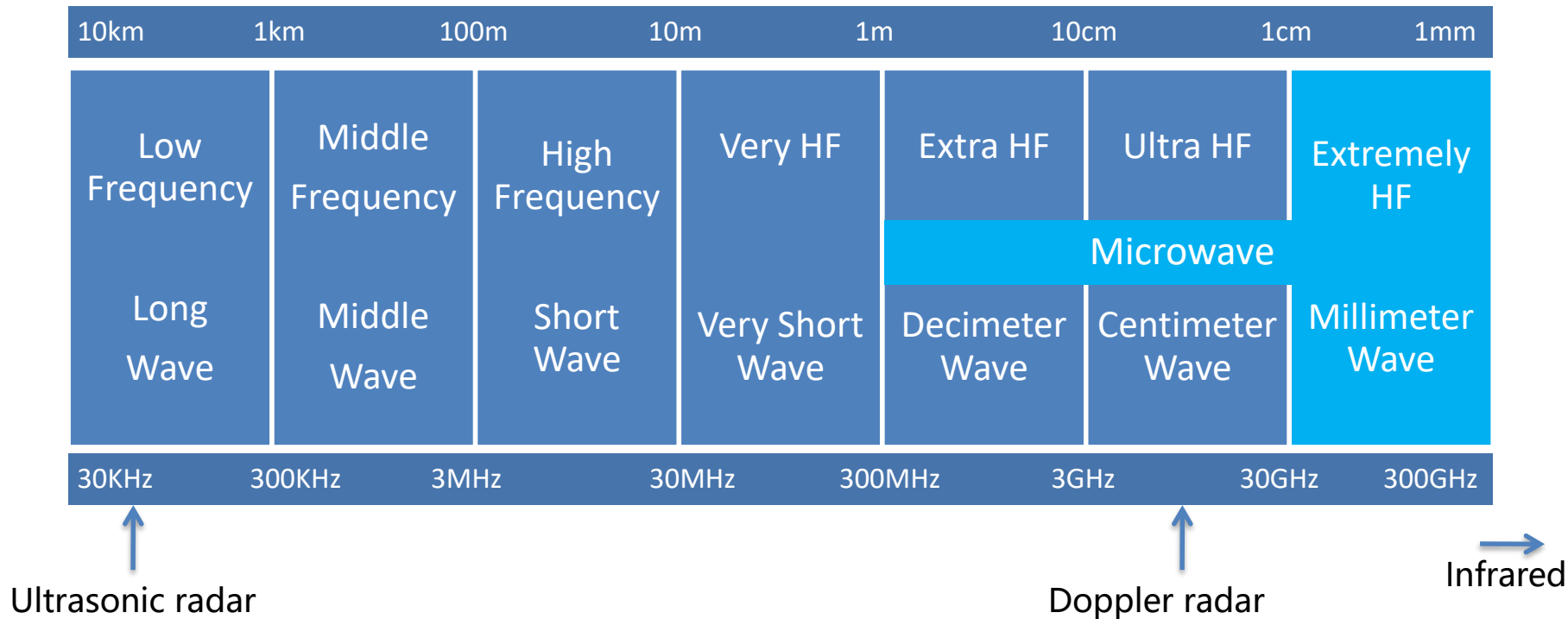
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1. The Millimeter Wave Radar Detection System
2. Features of Millimeter Wave Radar Detection System
3. Application of Millimeter Wave Radar Detection System
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The Millimeter Wave Radar Detection System



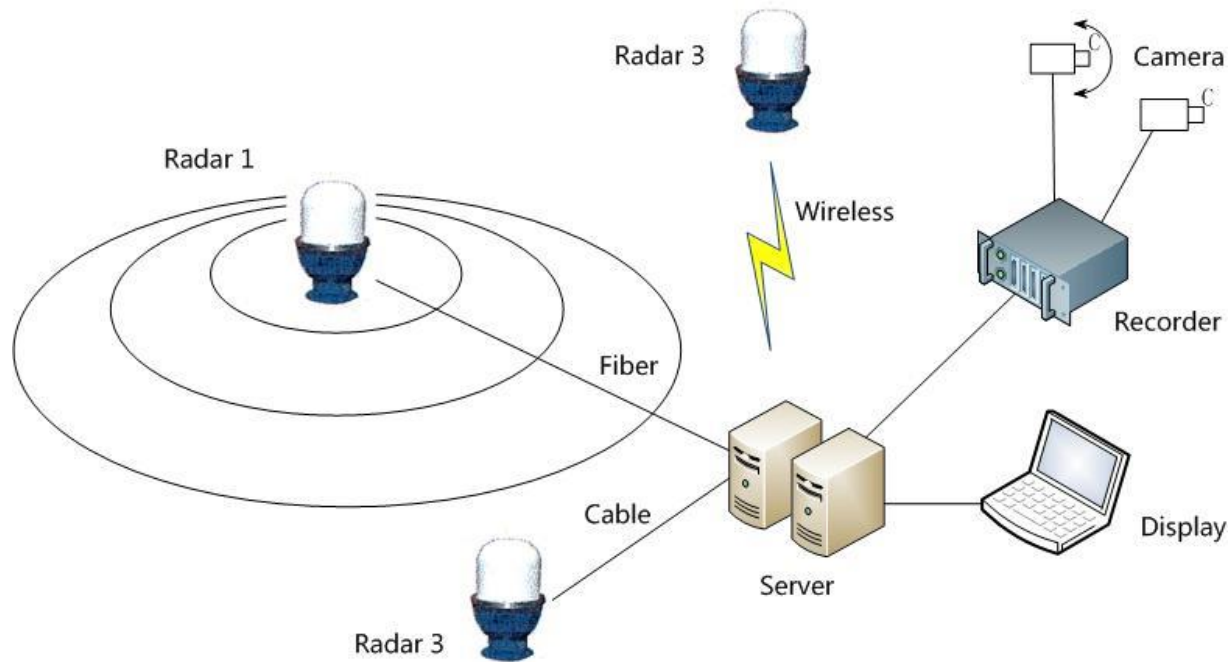
The Millimeter Wave Radar Detection System

Radar:

distance measuring,
determine the location and
velocity of the target

Server:

analyze the behavior of the target
determine if the object has
malicious act



The Millimeter Wave Radar Detection System

Navtech Advanced Guard ®

Frequency: 76~77GHz

Scanning Radius: 1.5km

Accuracy: 30cm

Height: 3~10m

Price: \$250,000



Features of Millimeter Wave Radar Detection System

Low False Alarm Rate

- strong penetration ability for fog, dust
- detection feature not affected by weather

Active Detection

- detection for any object within a radius of 1.5km
- behavior analysis ability

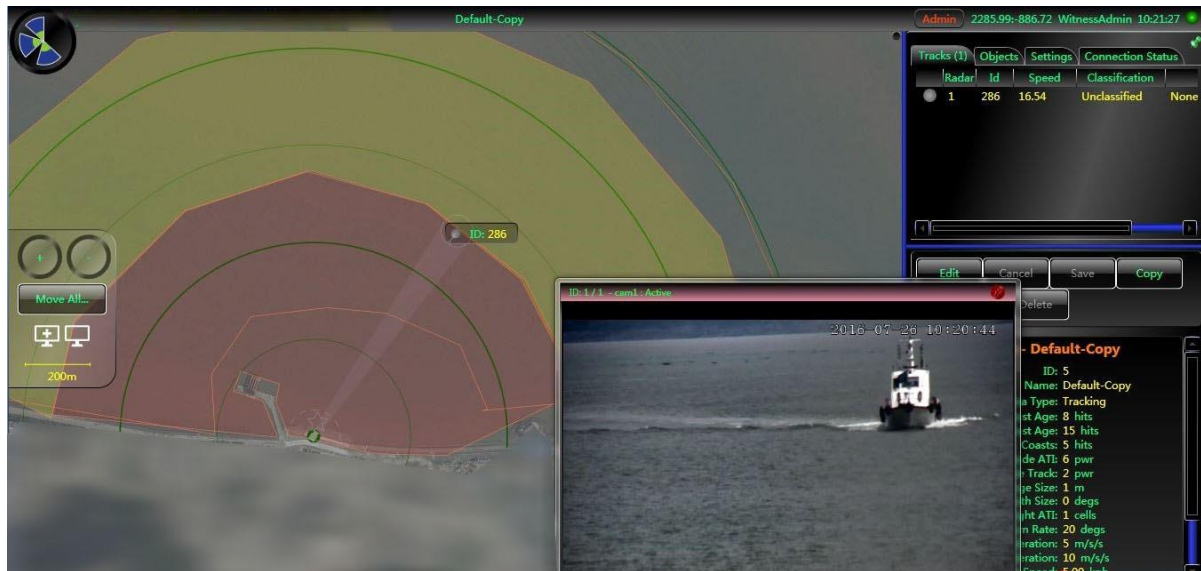
Path Tracking

- keep track of motion trajectory of the intruder

Easy Installation

- physical barrier not necessary, very few cables, low construction cost

Application of Millimeter Wave Radar Detection System



Open Area Detection

-- open water

-- material storage site

Application of Millimeter Wave Radar Detection System



Positioning

- vehicle
- overspeed detection
- important material

Application of Millimeter Wave Radar Detection System



Temporary Barrier

- temporary barrier during construction
- compensation detection method for broken sensors
- easy to dismount for different situation

Future of Intrusion Detection System

Need for Evolution

- New threat such as airborne attack is becoming real
- There are problems with traditional detection system

Enhanced Detection

- Multiple sensing modes to distinguish interference
- More detection features for higher resolution

Enhanced Integration

- Behavior analysis, Target tracking
- Facilitate the response force

Cost Effective

- Can be reduced greatly by proper design
- Implicit additional value

Evolving of Intrusion Detection System

| | 1 st Generation | 2 nd Generation | 3 rd Generation |
|---------------------|---|---|--|
| Detection Principle | Existence of Signal | Complex Signal Processing | Multiple sensors Target driven |
| Typical Product | Active Infrared | Microwave Electric Field | Radar detection Multiple sensor network |
| Performance | Line detection High false alarm rate Easy to bypass | Volume detection High reliability High false alarm rate | Volume detection High reliability Low false alarm rate |
| Function | Produce alarm | Produce alarm Provide location of intrusion | Provide behavior analysis, trajectory tracking |
| Cost | Based on the length of perimeter | Based on the length of perimeter | Total cost optimized by proper design |

1. Millimeter-wave radar detection system is a very effective new intrusion detection method.
2. We have used the millimeter wave radar in nuclear power plant for several applications.
3. It should be encouraged to introduce new detection technologies to face increasing threat.

谢谢！
THANK YOU！