

Increased safety and speed for narcotics detection using standoff Raman

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TECHNOLOGIES

Pendar X10

Space:

Detection of narcotics and other hazardous materials

Problem:

Increase operator safety *and* measurement speed

Solution:

Pendar X10 Standoff Raman Chemical Identification

Results: Standoff

1-3 feet, through clear barriers

No sampling required

Fast

Point and shoot

White powders typically identified in < 10 s

Dark or Fluorescent materials typ. < 30 s

Safe

Does not ignite black powder, sensitive primaries

Class 3R: no laser training required, low risk of injury



Commercially available now (contact: x10@pendar.com)

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Standoff Advantage

- Handheld, short-range (up to 3 feet) standoff point-and shoot measurement.
- Readings taken through thick, translucent containers.
- Measure through closed plastic bags, chemical hoods, even closed windows.



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Speed Advantage

- Rapid identification of highly fluorescent materials using proprietary method.
- No sample preparation required.
- Dark or highly fluorescent materials identified in <30 seconds, white powders in 5 to 10 seconds.



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Safety Advantage

- Minimal ignition risk with black powder and sensitive primaries.
- Class 3R laser; no laser safety eye protection or special training required.
- Through barrier analysis prevents handling of sensitive materials.



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CBP Case Study 1/2

Scenario:

- Bulk white powder is found in a car at a border crossing

Problem Statement:

- The toxicity of the material is unknown
 - It may be dangerous to open the bag for sampling
- The sensitivity of the material is unknown
 - The sample may ignite with high laser power

Solution:

- Low ignition risk for dark and sensitive materials
- Measurement through clear containers and through glove-box wall



CBP Case Study 2/2

Scenario:

- Unknown white powder is found in a mailed package

Problem Statement:

- The toxicity of the material is unknown
 - It may be dangerous to open the bag for sampling
- The sample is highly fluorescent
 - Difficult to measure with existing 785 nm Raman systems
- The suspected narcotics may be cut
 - High sensitivity required
 - Existing systems may answer 'No match' if the sample is not fully explained as a mixture of known chemicals

Solution:

- Safe measurement through clear containers or bags and through glove-box wall
- Pendar X10 can rapidly measure highly fluorescent materials, with high sensitivity
 - Advanced algorithm aims at determining that no threat material is present or that a threat is present even when mixed with unknown chemicals



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