

CLAIMS

What is claimed is:

1. An article comprising:
a substrate;
a plurality of radiation sensors, each radiation sensor of the plurality of radiation sensors being disposed at a corresponding position on the substrate; and
alert circuitry coupled to the plurality of radiation sensors, wherein the alert circuitry indicates, in real time, a localized detection of radiation according to corresponding one or more positions on the substrate of a particular one or more radiation sensors of the plurality of radiation sensors.
2. The article of claim 1, wherein the plurality of radiation sensors comprises optical scintillating fibers.
3. The article of claim 2, wherein the optical scintillating fibers are arranged in a mesh, wherein each radiation sensor corresponds to a defined unit area of the mesh.
4. The article of claim 2 or 3, wherein the plurality of radiation sensors further comprises at least one photodetector coupled to the mesh.
5. The article of claim 4, wherein each defined unit area of the mesh comprises two or more optical scintillating fibers in a first direction and two or more optical scintillating fibers in a second direction,
wherein a first photodetector is coupled to one end of the two or more optical scintillating fibers that are in the first direction and a second photodetector is coupled to one end the two or more optical scintillating fibers that are in the second direction.
6. The article of claim 5, further comprising a third photodetector coupled to another end of the two or more optical scintillating fibers that are in the first direction and a fourth

photodetector is coupled to one end the two or more optical scintillating fibers that are in the second direction.

7. The article of claim 4, wherein the plurality of radiation sensors comprises composite detectors, each composite detector comprising a scintillation detector and photodetector in a scintillator-light pipe configuration.

8. The article of claim 1, wherein the alert circuitry comprises a plurality of light sources.

9. The article of claim 8, wherein each light source is coupled to a corresponding one radiation sensor of the plurality of radiation sensors and located within a region of the corresponding position of the radiation sensor on the substrate.

10. The article of claim 1, wherein the alert circuitry comprises a speaker and sound generator.

11. The article of claim 1, wherein the substrate is flexible material.

12. The article of claim 1, wherein the substrate is a garment.

13. The article of claim 1, wherein the substrate is a cloth.

14. The article of claim 1, wherein the substrate is a floor covering.

15. The article of claim 1, wherein the substrate comprises at least two layers selected from the group consisting of:

- a transparent fabric layer;
- light emitting diode substrate layer;
- converter/graded absorber; and
- radiation absorptive shield layer.