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(54) **STERILIZATION SYSTEM WITH  
ULTRAVIOLET EMITTER FOR  
ERADICATING BIOLOGICAL  
CONTAMINANTS**

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(58) **Field of Classification Search**

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See application file for complete search history.

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(57) **ABSTRACT**

An exemplary sterilization system includes a self-propelled  
robotic mobile platform for locating and eradicating infec-  
tious bacterial and virus strains on floors (and objects  
thereon), walls, cabinets, angled structures, etc., using one or  
more ultraviolet light sources. A controller allows the system  
to adjust the quantity of ultraviolet light received by a surface  
by, for example, changing the intensity of energy input to a  
ultraviolet light source, changing a distance between a ultra-  
violet light source and a surface being irradiated, changing  
the speed/movement of the mobile platform to affect time of  
exposure, and/or by returning to contaminated areas for addi-  
tional passes. The mobile platform may include a sensor  
capable of detecting fluorescence of biological contaminants  
irradiated with ultraviolet light to locate contaminated areas.  
The system is thus capable of “seek and destroy” functionali-  
ty by navigating towards contaminated areas and irradiating  
those areas with ultraviolet light accordingly.

**18 Claims, 10 Drawing Sheets**

