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Frisch et al.

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(54) **UVB-VISIBLE CHANNEL APPARATUS AND METHOD FOR VIEWING A SCENE COMPRISING TERRESTRIAL CORONA RADIATION**

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(52) **U.S. Cl.**

CPC **G02B 27/28** (2013.01)
USPC **382/100; 382/224; 382/284; 250/226; 359/350; 359/885**

(58) **Field of Classification Search**

USPC 382/100, 224, 284; 250/226; 359/350, 359/885

See application file for complete search history.

(57) **ABSTRACT**

A UVB-visible hybrid system and method for visualizing a scene comprising one of more terrestrial corona discharge(s) and one or more objects is disclosed. On the UVB channel, an object-devoid UVB image of at least a portion of the scene is generated using UVB light which passes through a corona-peak tuned optical filter configured to filter out sufficient non-terrestrial-corona light so that the generated UVB image is object-devoid. The object-devoid UVB image is analyzed to classify pixels thereof as corona-discharge pixels or non-corona-discharge pixels. When a derivative of the object-devoid UVB image superposed with a visible-band image of the scene is displayed on a display device, the pixels classified as corona-discharge are displayed at increased visibility, while the pixels classified as non-corona-discharge are displayed at decreased visibility. In some embodiments, the optical filter has an average optical density over the [290 nm, 700 nm] spectrum of at least 4.

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15 Claims, 16 Drawing Sheets

