correlating the measured photoelectron current with a condition of quality; and

negatively biasing the collector with respect to the test surface until an amount of charge equal to the certain amount of charge transferred during the measurement step is replaced to the test surface.

13. A method of performing quality inspection on an insulator test surface comprising the sequential steps of:

bombarding the insulator test surface with ultraviolet radiation in the presence of an electric field to remove negative charges from the insulator test surface;

exposing the insulator test surface to an ion field until the insulator test surface no longer exhibits a net charge status;

directing ultraviolet light on the test surfaces;

measuring a current of photoelectrons emitted from the test surface; and

correlating the measured photoelectron current with a condition of quality.

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