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In many plasma based applications, surface flashover cannot be avoided. Repetitive exposure of such surface flashover (also termed as an arc), can deteorate the surface properties of the material. Depending upon the arc locations, and arc frequency ultimately it may reduce the functional life of the material. Hence developing an understanding of such arcing phenomenon on various substrate's surface [i.e. insulator, conductor or semiconductor] is essential. Electric discharges or arcing prediction by simulations being still a technical challenge. Thus it is very important to capture the arc parameters such as arc locations precisely. This information helps to understand the reason behind arc initiation that helps in developing suitable arc mitigation techniques. Small duration arc events can be captured by using an advanced camera integrated with a trigger circuit but this is a cost intensive solution. Further surface flashover is a statistically happening event hence arc location and time cannot be predicted in advance. Therefore in various situations, this makes it difficult to integrate trigger circuits with advanced camera. In this paper a study of arc location on the satellite solar panel surface has been performed. We demonstrate the ability to precisely capture the ESD events and arc locations by using an infrared camera and an indigenously developed LabVIEW based automated test facility.

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