# INTISARI

*Flashover* diawali dengan adanya *partial discharge* pada isolator karena adanya kontaminasi pada badan isolator. *Partial discharge* yang terjadi pada dinding (*surface*) isolator disebut *surface discharge,* dan yang muncul melalui media gas, cairan, atau udara disebut *corona discharge*. Hal tersebut dapat dipengaruhi oleh faktor kelembaban dari cuaca, seperti kabut atau hujan, sehingga membuat dinding *isolator* menjadi bersifat konduktif. *Corona discharge* dapat dideteksi dengan beberapa metode seperti deteksi pulsa arus, deteksi akustik dan deteksi *ultraviolet*. Pada penelitian ini akan digunakan deteksi *ultraviolet* karena dianggap lebih mudah dengan menggunakan bantuan UV *imager* yang mampu mendeteksi radiasi *ultraviolet*. Hasil rekaman dari UV *imager* tersebut nantinya akan dikonversi menjadi gambar *frame-by-frame*, yang kemudian akan melalui proses *image segmentation* berupa *thresholding* sehingga objek radiasi akan dapat dipisahkan dari *background*. Proses *thresholding* itu sendiri nantinya akan menggunakan 2 metode *thresholding*, yaitu Otsu *thresholding* dan *color thresholding*. Kemudian hasil dari proses segmentasi tersebut adalah berupa objek radiasi berwarna putih yang nantinya nilai *pixel* dari objek tersebut akan dihitung sehingga menghasilkan nilai *facular area*. Berdasarkan pengujian pada penelitian ini didapatkan hasil nilai *facular area* dengan karakteristik yang sama seperti nilai *count* pada UViRCO 6D, sehingga dapat digunakan sebagai metode alternatif.

**Kata kunci :** *Corona discharge, ultraviolet, image segmentation, facular area.*

# ABSTRACT

*Flashover begins with a partial discharge on the insulator due to contamination on the insulator body. Partial discharge that occurs on the wall (surface) of the insulator is called a surface discharge, and what appears through the media of gas, liquid, or air is called corona discharge. This can be influenced by the humidity factor from the weather, such as fog or rain, which makes the insulating walls conductive. Corona discharge can be detected by several methods such as pulse current detection, acoustic detection and ultraviolet detection. In this study, ultraviolet detection will be used to analyze the emission from the corona discharge in the form of ultraviolet radiation. In this study, ultraviolet detection will be used because it is considered easier to use with a UV imager that can detect the radiation. The recording results from the UV imager will later be converted into a frame-by-frame image, which will then go through an image segmentation process in the form of thresholding so that the radiation object can be separated from the background. The thresholding process itself will later use 2 thresholding methods, namely Otsu thresholding and color thresholding. Then the result of the segmentation process is in the form of a white object, which later the pixel value of the object will be calculated to produce a facular area. Based on testing in this study, the results of the facular area value with the same characteristics as the count value on UViRCO 6D, so it can be used as an alternative method.*

***Keywords** : **Corona discharge, ultraviolet, image segmentation, facular area.***