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Change with time in PD characteristics of a void in the semicon/polyethylene interface

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PD measurement is important as an after laying test for an ultra-high voltage power cable line because PD is sensitive to defects in a cable system such as a void. However, the PD characteristics for defects in the cable system strongly depend upon type or size of defects. PD characteristics in a void, for example, and their change with time are not well understood yet.

In this paper, the PD characteristics of a void between semi-conducting layer and insulating polyethylene layer have been investigated. Especially, the changes in PD pattern with time and also the effects of void condition were discussed. These results gave us important information to improve the insulation diagnosis of cable line.