

# PROPOSAL OF A PARTIAL DISCHARGE DETECTION METHOD FOR LABORATORY AND FIELD CONDITIONS.

Hélio Tatizawa, Kleiber T. Soletto, and Wilson R. Bacega

**Abstract** - This paper presents the results of research aiming to develop a new procedure for partial discharge detection in high voltage equipment, by measuring the electromagnetic emitted spectrum produced by the partial discharges. This technique can be performed with the equipment energized and without disconnecting it from the system. The partial discharge generated current pulse is picked up by an antenna or a high frequency CT, applied to the grounding conductor of the equipment, and is detected by a spectral analyzer. In this way, the radiated electromagnetic spectrum in the frequency domain is obtained. The partial discharge identification can be easily done by visual inspection.

Good results were obtained, showing the feasibility of detecting partial discharges in energized equipment in the laboratory and in the field, in a substation environment, using this method.

*Index Terms* - IEC 60270, Instrument transformers, insulation testing, partial discharges, predictive maintenance.

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*H. Tatizawa is with Instituto de Eletrotécnica e Energia da USP - São Paulo Brazil (phone: +55-11-3091-2574; fax: +55-11-3812-9251; e-mail: hedio@iee.usp.br).*

*K. T. Soletto is with Instituto de Eletrotécnica e Energia da USP - São Paulo - Brazil (e-mail: kleiber@iee.usp.br).*

*W. R. Bacega is with CTEEP - Cia de Transmissão de Energia Elétrica Paulista - São Paulo - Brazil (e-mail: wbacega@ctEEP.com.br).*