Contribution ID: **299** Type: **Poster Presentation**

Study of the deterioration of conductive coatings used in form-wound motor coils by fretting wear tests

Wednesday 6 July 2016 13:30 (20 minutes)

Many of the failures in rotating electrical machines can have mechanical origin. One of these conditions is the vibration of the windings, something that can occur when the coils become loose in the slot. In medium voltage form-wound coils, a small oscillating movement can lead to the wear by fretting of the conductive armor coating in contact with the stator core wall. Once the conductor armor coating is completely removed in some portions of the coil surface, partial discharges appear, either inside of the slot or at the slot end. In this work the fretting wear phenomena on conductive armor coatings is investigated by using a tribotester with a ball-on-flat contact geometry, built for this purpose. The results show the friction force against time and friction coefficients achieved during the tests, also the surface damage caused by this phenomenon is presented for a commercial conductive armor coating.

Primary author: Dr ESPINO-CORTES, Fermin P (SEPI ESIME Zac IPN)

Co-authors: Dr GALLARDO- HERNÁNDEZ, E. A. (SEPI ESIME IPN); Mr CARLOS, MOntoya (SEPI ESIME IPN); Dr VITE TORRES, Manuel (SEPI ESIME IPN); Mr ASIAIN OLIVARES, Tomas (SEPI ESIME IPN)

Presenter: Dr ESPINO-CORTES, Fermin P (SEPI ESIME Zac IPN)

Session Classification: Poster 1-C

Track Classification: Dielectrics, Insulation, and Breakdown