

FEATURE ARTICLES

- 8 Transient and Steady-State DC Behavior of Oil-Impregnated Pressboard**
Fabian Schober, Stephan Harrer, Andreas Kuchler, Frank Berger, Wolfgang Exner, and Christoph Krause
 This article analyses the influence of pressboard structure and mineral oil on the electrical conductivity of impregnated pressboard to gain a physical understanding of the conduction processes of pressboard in order to achieve a desired conductivity value for DC applications.
- 15 Partial Discharge Characterization of Cross-Linked Polyethylene Medium Voltage Power Cable Termination Defects at Very Low Frequency (0.1 Hz) and Power Frequency Test Voltages**
Daniel Fynes-Clinton and Cuthbert Nyamupangedengu
 Partial discharge phase-resolved pattern of typical installation defects in medium voltage cross-linked polyethylene power cable terminations are similar at very low frequency and power frequency voltages and yet distinct for each defect type. Apparent partial discharge magnitude and partial discharge inception voltage parameters are generally bigger at power frequency than at very low frequency.
- 24 Diagnosis and Location of Faults in Submarine Power Cables**
Manfred Bawart, Massimo Marzinotto, and Giovanni Mazzanti
 The article reviews the methods for diagnosing and locating faults in submarine power cables with case studies relevant to long AC cables and very long high voltage DC cables.
- 38 Investigation on Aging Mechanism of Polyester Under Combined Stresses**
Nursel Can, F. Aras, V. A. Alekperov, and A. Altindal
 The article describes an investigation into the combined effects of electrical, thermal, and mechanical stresses on the electrical breakdown strength of polyester film of thickness 12 to 36 μm .

DEPARTMENTS

- 4 Editorial**
Nancy Frost
- 6 From the Editors' Desk**
Ed Cherney and Robert Fleming
- 52 DEIS News**
- 57 News From Japan**
Y. Ohki
- 60 Book Reviews**
John J. Shea
- 64 Meetings Calendar**
Davide Fabiani

FEATURE ARTICLES (continued)

43 Using a Field Probe to Study the Mechanism of Partial Discharges in Very Small Air Gaps Under Direct Voltage

E. Lemke

To identify the different kinds of partial discharges in very small air gaps under direct voltage, the associated transient voltage has been measured by means of a capacitive field probe.

FREE SUBSCRIPTION

Postal regulations require that we receive a request from you every year for you to continue receiving your free subscription to IEEE EI Magazine. Please fill in the following information and return it to the address below, otherwise your free subscription will be cancelled.

Magazine Mailing Label # _____

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Country: _____

E-mail: _____

Signature: _____ Date: _____

Please send to: Co-Editor-in-Chief
IEEE/DEIS EI Magazine
7 Woodland Glen Drive
Guelph, Ontario N1G 3N2
Canada

OR send the above information by e-mail to each@sympatico.ca. When sending request by e-mail, please **DO NOT** send a hardcopy by mail.