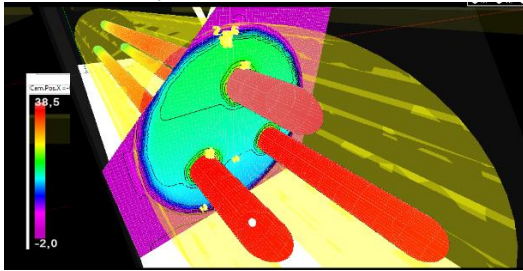


DESIGN OF SWITCHBOARDS, SWITCHGEAR & BUSWAYS using software SwitchgearDesign.

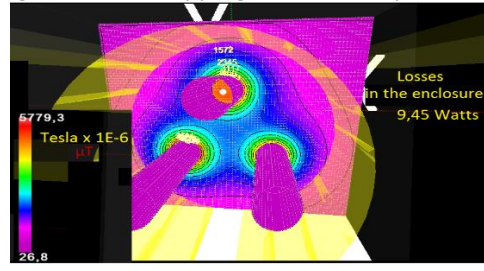
IEC 61439 & IEC 62271- 200/201/1 & IEC 62271-307

Internal arc, temperature rise, electrodynamic forces, mapping of magnetic & electric fields for EMC problems

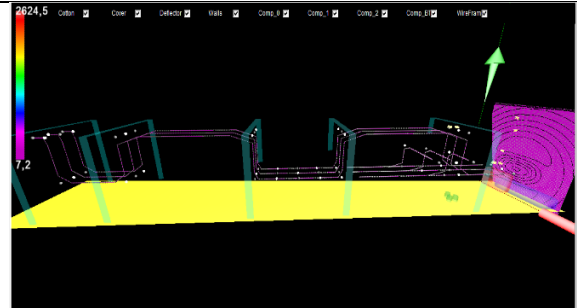
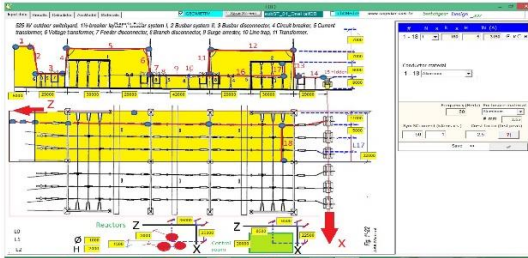
Temperature rise test in GIS



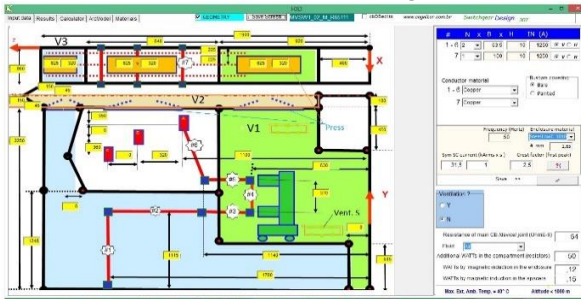
Magnetic field mapping and losses by induction



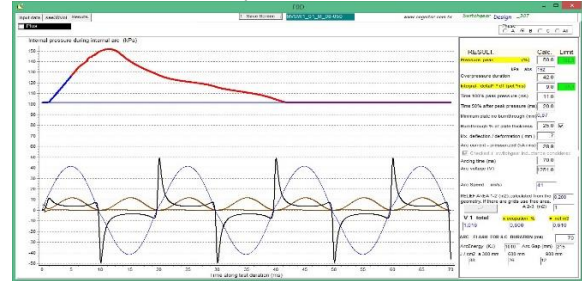
Magnetic field inside a substation



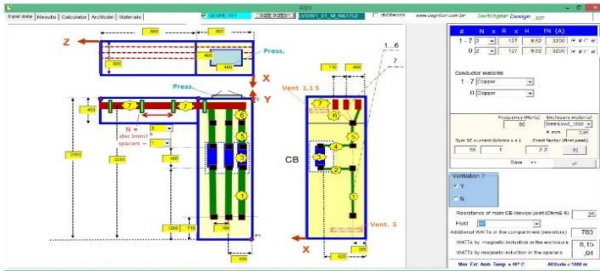
Internal arc test in medium voltage cubicle AIS



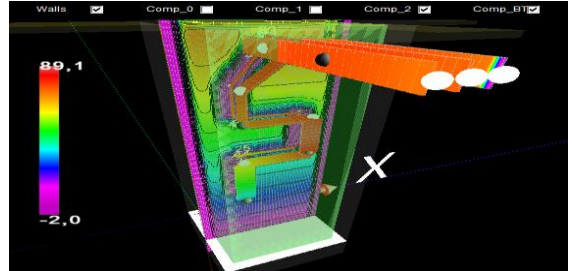
Overpressure curve



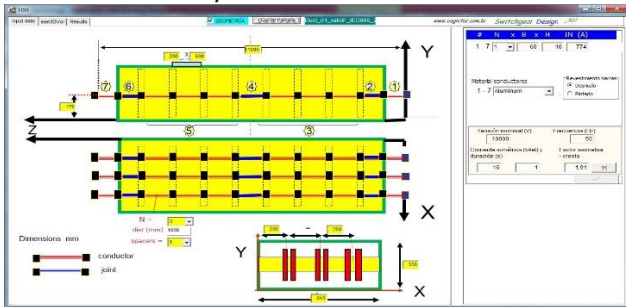
Temperature rise test in low voltage CCM



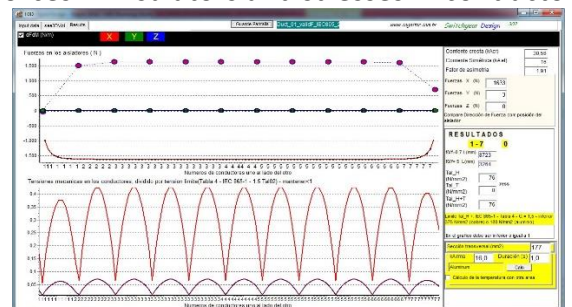
LVSW1_01_M_R67752



Electrodynamic forces in a bus duct



Forces in insulators and stresses in conductors



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DESIGN OF SWITCHBOARDS, SWITCHGEAR & BUSWAYS using software SwitchgearDesign.

IEC 61439 & IEC 62271- 200 / 201 / 1 & IEC 62271-307

Internal arc, temperature rise, electrodynamic forces, mapping of magnetic & electric fields for EMC problems

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This training is handmade for manufacturers and big users of high to low voltage equipment as well as certification companies and testing laboratories. It is applied all over the World and useful for whom want to know sound engineering design concepts and to apply these concepts in the design and use of equipment for power substations. The participants receive and learn how to use the design software SwitchgearDesign developed by the lecturer of the training. The lecturer is an electrical engineer experienced in laboratory testing operation and design, specifications and in preparing IEC technical standards. SwitchgearDesign permits to develop substation equipment simulating their performance during type tests before going to do a real test in laboratory. The program of the course cover topics like:

- Specification and testing of MV and LV switchboards, switchgear, transformers, circuit breakers, isolators, fuses, busways , etc..
- Details and understanding of opportunities to reduce the need of expensive testing according to IEC62271-1 / 100 / 200 /307 (medium – high voltages) and IEC 61439 (low voltage)
- Laboratory tests (breaking, short circuit, internal arc, heating, electro dynamical forces and others)
- Methods of calculation of electrical and mechanical effects and how to improve the design.
- Magnetic and electric fields mapping in substations to solve EMC problems
- How to use the software SwitchgearDesign to simulate and design your equipment for temperature rise, short time and crest current (electrodynamic forces) and internal arc tests.

Validation of temperature rise , magnetic and electric fields	http://www.cognitor.com.br/tr074engvalidationtemprise.pdf
Validation of software SwitchgearDesign for simulation of high power tests (internal arc tests and electrodynamic forces)	http://www.cognitor.com.br/tr_071_eng_validationswitchgear.pdf
Some articles written by the lecturer	http://www.cognitor.com.br/en/site/index.php?sec=5
CV of the lecturer	http://www.cognitor.com.br/en/site/index.php?sec=1
Useful links	http://www.cognitor.com.br/en/site/index.php?sec=6

The CV of the lecturer (read above) include a long experience in laboratory testing, design of equipment and testing laboratories and participation in IEC and CIGRÈ working groups

If your company is interested in this Training or even in the design of Testing Laboratories, please contact me in the directions below. I will be pleased to answer your questions.

With Kind Regards

Sergio Feitoza Costa (Lecturer of the training and developer of SwitchgearDesign)

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