

Single-phase transformer



Component

École Nationale
Supérieure
d'Électrotechnique
d'Électronique
d'Informatique
d'Hydraulique
et des
Télécommunications

In brief

- **Amety's Code:** N5AE03D
- **Open to exchange students:** No

Presentation

Objectives

Provide students with a scientific background that enables them to understand the concepts of single-phase transformers.

Description

Introduction to the single-phase transformer

Perfect single-phase transformer

Equivalent models of the single-phase transformer

Characteristics of the real transformer

Pre-requisites

- node laws/mesh laws;

- concept of impedance; generalized Ohm's law;
- elementary passive dipoles;

Mathematical prerequisites:

- vector construction;
- complex notation of a sinusoidal quantity;
- calculation of an effective value;
- use of Fourier series expansion.