



UNICUSANO
 Università degli Studi Niccolò Cusano - Telematica Roma

MAXWELL'S EQUATIONS: INSIGHTS.

Civil and Industrial Engineering Ph.D. programmes 2019-2020

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Abstract

Maxwell's equations describe one of the fundamental fields of physics: the electromagnetism; the publication, in XIX century, of Maxwell's equations was one of the most important example of empirical evidences gathering and theory building in the whole history of physics. Maxwell merged together the facts and the laws extracted from the activities of Charles-Augustin de Coulomb, Hans Christian Ørsted, Carl Friedrich Gauss, Jean-Baptiste Biot, Félix Savart, André-Marie Ampère, and Michael Faraday. We will review these results of paramount importance from a novel point of view: by first introducing the geometrical and analytical tools and soon after by manipulating the equations in order to get to the nutshell of their meaning.

Program

Room "Aula IV"*.

- 02/03/20 (15:00 – 17:00) Math background
- 04/03/20 (15:00 – 17:00) Nabla operator and vectorial fields
- 09/03/20 (15:00 – 17:00) Maxwell eq.s in differential form: fields solution
- 11/03/20 (15:00 – 17:00) Maxwell eq.s in differential form: potentials
- 16/03/20 (15:00 – 17:00) Maxwell eq.s in differential form: waves
- 18/03/20 (15:00 – 17:00) Maxwell eq.s in integral form: applications

*To be confirmed.

