

Title: RCR Universal Voltage Divider for HV Lab

Relevant Workstreams:

Workstream 4, Transition from AC to DC, as part of the FAN project. The objective of this workstream is to assess the implications of the high level of infiltration of DC in AC systems and develop mitigation measures where needed. Furthermore, to enable progressive transition we will evaluate the potential of repurposing AC infrastructure for DC applications.

Project Description:

This year for the ENEL300 Individual Design Project, I have the students creating LT Spice simulations for an RCR Universal Voltage Divider to enable testing of DC + Impulse/AC voltages in the high voltage lab.

We need to be able to do these tests as part of the testing programme on cables.

For the summer project, I propose building and characterising the best design submitted from ENEL300.

Specific Requirements: A good background knowledge in electrical engineering, specifically sizing and sourcing components such as resistors for voltage and power ratings. Practical skills in soldering and assembly and in measuring device performance over a wide frequency range.

Resources:

Workshop and lab facilities for the design, manufacture and testing of the UVD.