1 Introduction

Electrical power system operation requires planning and analysis in a variety of aspects. Traditionally, these aspects have been grouped under two realms, namely Power System Analysis, for quasi-steady-state studies such as Power Flow, Economic Dispatch, Optimal Power Flow, State Estimation, etc. and Power System Dynamics, which delves into time-domain, dynamic behaviours like transient and small signal stability studies. Aspects like Sparse Power Flow which requires usage of sparse data structures especially highlight how actual implementation can vary from textbook algorithms, which are often written in pseudo code. Our free and open-source package, PowerEdu.jl aims to serve as a bridge for budding power system engineers who may find the initial stages of coding and computational analysis challenging. By offering an accessible, well-documented and easy to tinker platform, we aim to narrow the gap between newcomers to the field and seasoned experts who have dedicated years at renowned national laboratories or corporations, developing sophisticated software tools utilized by the industry.