Implementation Details

The attached files constitute the implementation of the mathematical derivations contained in the manuscript “Efficient computation of the magnetic field created by a toroidal volumetric current with application to the study of the magnetic confinement in tokamaks.” submitted for consideration as a paper in the journal Computer Physics Communications.

The files are separated into two categories: the first folder named “1\_Method\_validation” contains the file “scripts.m” which contains all the MATLAB codes used to obtain the figures 4 to 9 of the manuscript in a sequential order when executed in sections. The second, named “2\_Tokamak\_simulations” include all files required to obtain the figures 10 and 11 when the file named “MAIN.m” is executed.

The file “scripts.m” includes all functions which implement the manuscript formulas at the end such that any user can reuse them by simply copying and pasting them into a new script or generate function “.m” files if desired.