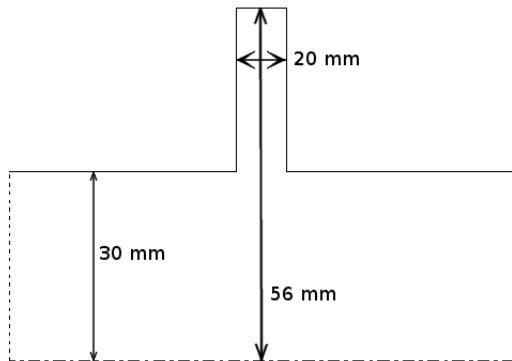
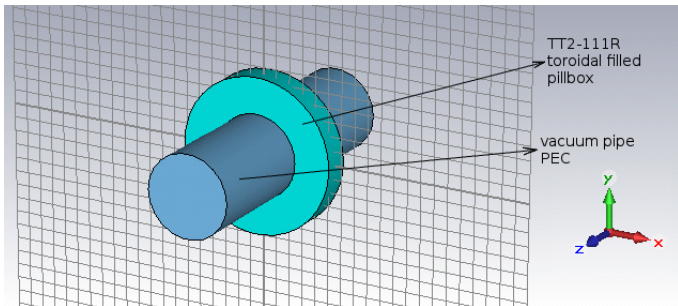
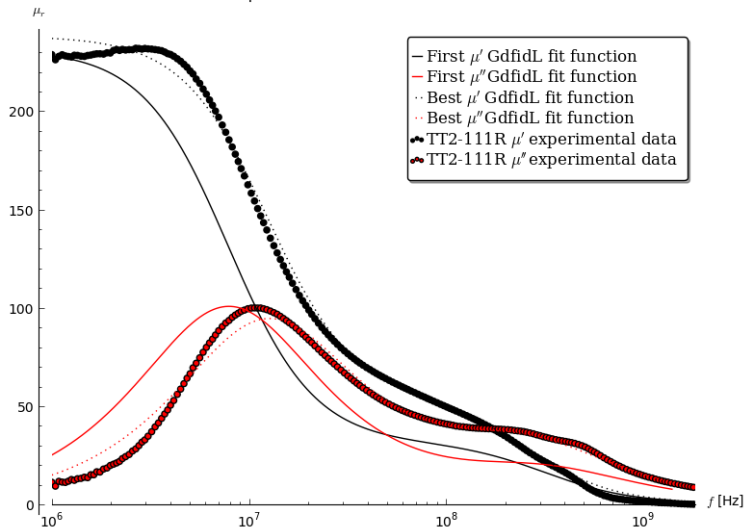


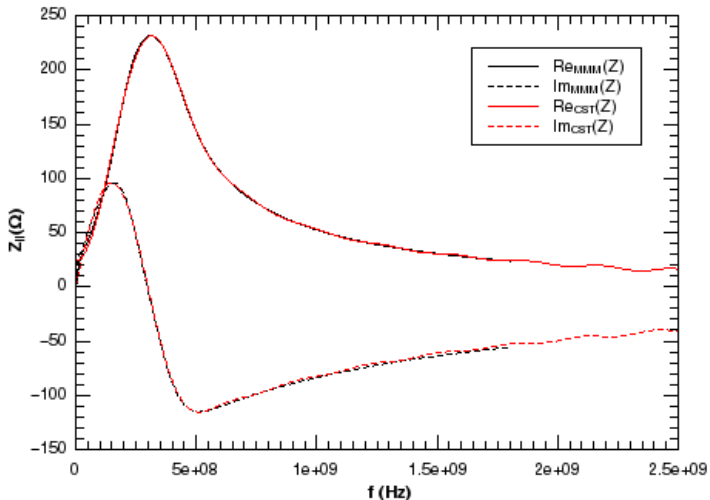
# The simple geometry simulated for the benchmark



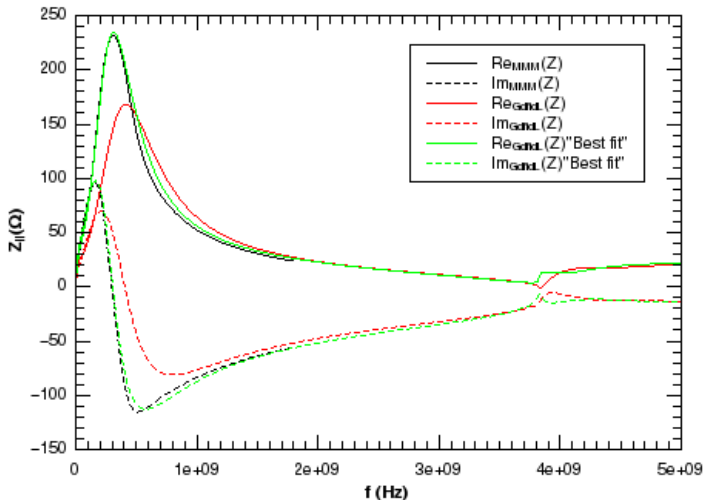
TT2-111R experimental data vs. GdfidL best fit functions



**Mode Matching Method vs CST**  
**Longitudinal Impedance for TT2-111R ferrite filled pillbox**



**Mode Matching Method vs GdfidL**  
**Longitudinal Impedance for TT2-111R ferrite filled pillbox**



- The first “best” fit function implemented in GdfidL to reproduce TT2-111R permeability was not so “best”;
- CST lets the user to upload a table of data and fit it with a suitable function (the more general being a  $n_{th}$  order polynomial,  $n \leq 10$ ); as far as the fit reproduces well the dispersion data, the impedance is calculated in a very good agreement with Mode Matching Method;
- Instead of what appeared to be at the beginning of this benchmark, nothing pathological seems to happen in GdfidL calculations. Simply, because of no automated scheme for data table fitting being implemented presently, one has to pass the code a “best fit” Lorentzian function with proper parameters. The results clearly show that the impedance calculation is strongly dependent on how much the fit approaches the “best” quality, as could be expected. Now also GdfidL results agree **quite** well with MMM, even if there is still margin for improvement;
- Work for the implementation of an automated fitting scheme of data table in GdfidL is ongoing by Warner Bruns.