

v1.2 Mar.2016

Multi mode cavity
Center feed
Water load

subroutine lattice_time_2dtm

!***** lattice widths *****

dl=1.0d-3

dy=dl

dz=dl

!***** number of cells in pml (ncpml) *****

ncpml=8 ! number of cell in pml

tcpml=ncpml*dl ! thickness of pml

!***** sinusoidal frequency *****

freq=2.45d9 ! Hz

subroutine j_source_2dtm

do j=nint((yi(1)+yi(8))/2.0)-nint(20.0d-3/dy), &

nint((yi(1)+yi(8))/2.0)+nint(20.0d-3/dy)-1

k=zi(2)+2

id=id_ey(j,k)

ey(j,k)=ey(j,k) &

-(dt/eps(id))/(1+(sig(id)*dt/(2.0d0*eps(id)))) &

*(-2.0d0)/sqrt(mu0/eps0)/dz & ! J [A/m2]

*dsin(2.0d0*pi*freq*(time-dt/2.0d0))

end do

subroutine media_coeff_2dtm

! id=0 vacume

eps(0)=eps0

sig(0)=0.0d0

mu(0)=mu0

! id=1 pec,pmc (no define, see <e-field> or <h-field>)

! id=2 is dielectric media

eps(2)=eps0*(70.0d0)

sig(2)=omega*(eps(2)*10.0d0)

mu(2)=mu0*(0.0d0)

! rectangular media (cavity metal)

mys=nint((yi(1)+yi(8))/2.0)-nint(120.0d-3/dy)

mye=nint((yi(1)+yi(8))/2.0)+nint(120.0d-3/dy)

mzs=nint((zi(1)+zi(8))/2.0)-nint(160.0d-3/dz)

mze=nint((zi(1)+zi(8))/2.0)+nint(160.0d-3/dz)

call rectangular_media_1

! rectangular media (waveguide metal)

mys=nint((yi(1)+yi(8))/2.0)-nint(24.0d-3/dy)

mye=nint((yi(1)+yi(8))/2.0)+nint(24.0d-3/dy)

mzs=zi(1)

mze=nint((zi(1)+zi(8))/2.0)

call rectangular_media_1

! rectangular media (cavity air)

mys=nint((yi(1)+yi(8))/2.0)-nint(101.0d-3/dy)

mye=nint((yi(1)+yi(8))/2.0)+nint(101.0d-3/dy)

mzs=nint((zi(1)+zi(8))/2.0)-nint(143.0d-3/dz)

mze=nint((zi(1)+zi(8))/2.0)+nint(143.0d-3/dz)

call rectangular_media

! rectangular media (waveguide air)

mys=nint((yi(1)+yi(8))/2.0)-nint(20.0d-3/dy)

mye=nint((yi(1)+yi(8))/2.0)+nint(20.0d-3/dy)

mzs=zi(1)

mze=nint((zi(1)+zi(8))/2.0)

call rectangular_media

! rectangular media (water load)

mys=nint((yi(1)+yi(8))/2.0)+nint(1.0d-3/dy)

mye=nint((yi(1)+yi(8))/2.0)+nint(81.0d-3/dy)

mzs=nint((zi(1)+zi(8))/2.0)-nint(40.0d-3/dy)

mze=nint((zi(1)+zi(8))/2.0)+nint(40.0d-3/dy)

call rectangular_media_2

