

v1.2 Mar.2016
 Sphere shielding
 with induced wire

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subroutine lattice_time_2dtm
!***** lattice widths *****
dl=2.0d-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=yi(1),yi(8)-1 ! for z propagation
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 modeling_2dtm
! circular media
jcent=nint((yi(1)+yi(8))/2.0)
kcent=nint((zi(1)+zi(8))/2.0)
radius=200.0d-3
call circular_media

! rectangular media
mys=yi(1)
mye=nint((yi(1)+yi(8))/2.0)
mzs=nint((zi(1)+zi(8))/2.0)-2
mze=nint((zi(1)+zi(8))/2.0)+2
call rectangular_media

! rectangular media
mys=yi(1)+50
mye=nint((yi(1)+yi(8))/2.0)
mzs=nint((zi(1)+zi(8))/2.0)-1
mze=nint((zi(1)+zi(8))/2.0)+1
call rectangular_media_1
  
```

