In [50]:
```
import healpy as h
```

In [51]:
```
mask=h.read_map("../datain/mask_gal70_nside512.fits",verbose=False)
```

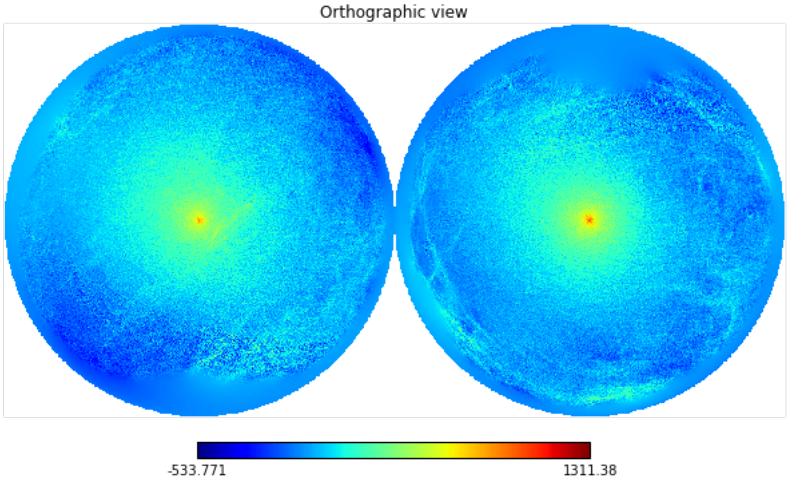
In [61]:
```
tebo1=h.read_map("../../../../B-PAM-ANALYSIS-2016/datain/maps/obsTEB/planck353_TEB_map_year1_gal70_nside512.fits",(0,1,2))
tebo2=h.read_map("../../../../B-PAM-ANALYSIS-2016/datain/maps/obsTEB/planck353_TEB_map_year2_gal70_nside512.fits",(0,1,2))
tebn1=h.read_map("../../../../B-PAM-ANALYSIS-2016/datain/maps/new_obsTEB/planck353_TEB_map_year1_gal70_nside512.fits",(0,1,2))
tebn2=h.read_map("../../../../B-PAM-ANALYSIS-2016/datain/maps/new_obsTEB/planck353_TEB_map_year2_gal70_nside512.fits",(0,1,2))

tebo1alm=h.map2alm(tebo1,lmax=1024,pol=False)
tebo2alm=h.map2alm(tebo2,lmax=1024,pol=False)
tebn1alm=h.map2alm(tebn1,lmax=1024,pol=False)
tebn2alm=h.map2alm(tebn2,lmax=1024,pol=False)
```

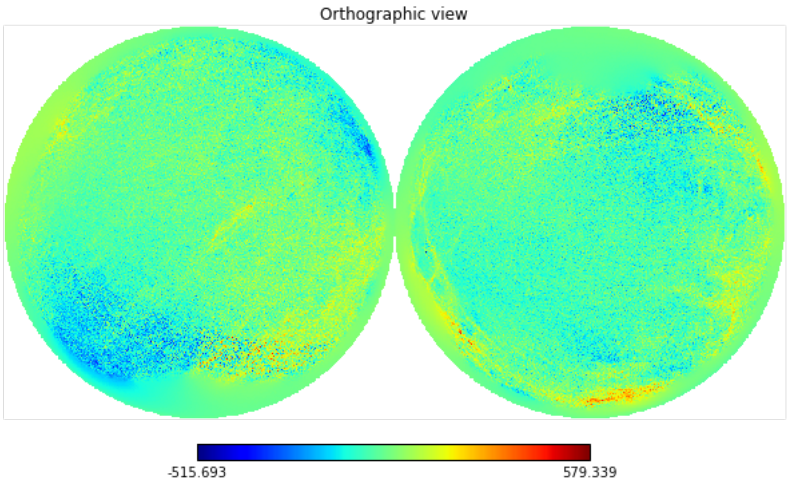
```
NSIDE = 512
ORDERING = RING in fits file
INDXSCHM = IMPLICIT
NSIDE = 512
ORDERING = RING in fits file
INDXSCHM = IMPLICIT
NSIDE = 512
ORDERING = RING in fits file
INDXSCHM = IMPLICIT
NSIDE = 512
ORDERING = RING in fits file
INDXSCHM = IMPLICIT
```

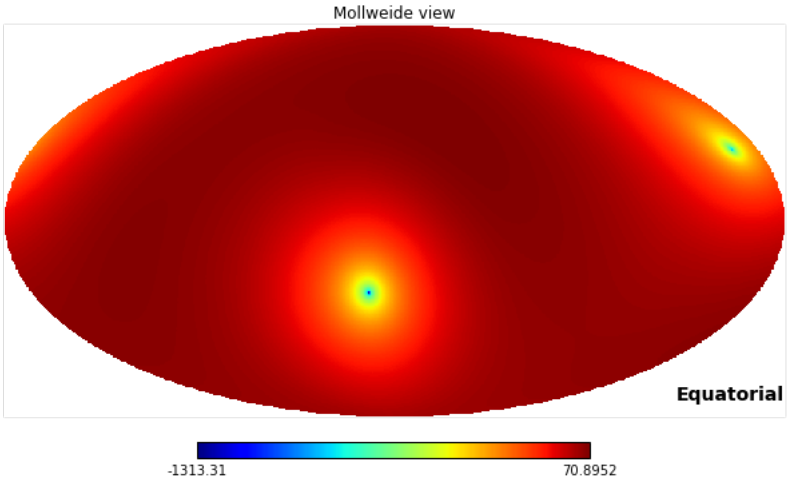
In [62]:
```
for i in range(size(tebnalm[0])):
    ell=h.Alm.getlm(1024,i)[0]
    if ell>1:
        f=sqrt(1./((ell+2)*(ell+1)*(ell-1)*ell))
    else:
        f=0.
    tebn1alm[1][i]=tebn1alm[1][i]*f
    tebn1alm[2][i]=tebn1alm[2][i]*f
    tebn2alm[1][i]=tebn2alm[1][i]*f
    tebn2alm[2][i]=tebn2alm[2][i]*f
    tebo1alm[1][i]=tebo1alm[1][i]*f
    tebo1alm[2][i]=tebo1alm[2][i]*f
    tebo2alm[1][i]=tebo2alm[1][i]*f
    tebo2alm[2][i]=tebo2alm[2][i]*f

tebo1=h.alm2map(tebo1alm,nside=512,pol=False)
tebo2=h.alm2map(tebo22alm,nside=512,pol=False)
tebn1=h.alm2map(tebn1alm,nside=512,pol=False)
tebn2=h.alm2map(tebn2alm,nside=512,pol=False)
```

```
Sigma is 0.000000 arcmin (0.000000 rad)
-> fwhm is 0.000000 arcmin


---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
<ipython-input-62-70483ca04af3> in <module>()
     15
     16 tebo1=h.alm2map(tebo1alm,nside=512,pol=False)
---> 17 tebo2=h.alm2map(tebo22alm,nside=512,pol=False)
     18 tebn1=h.alm2map(tebn1alm,nside=512,pol=False)
     19 tebn2=h.alm2map(tebn2alm,nside=512,pol=False)

NameError: name 'tebo22alm' is not defined
```

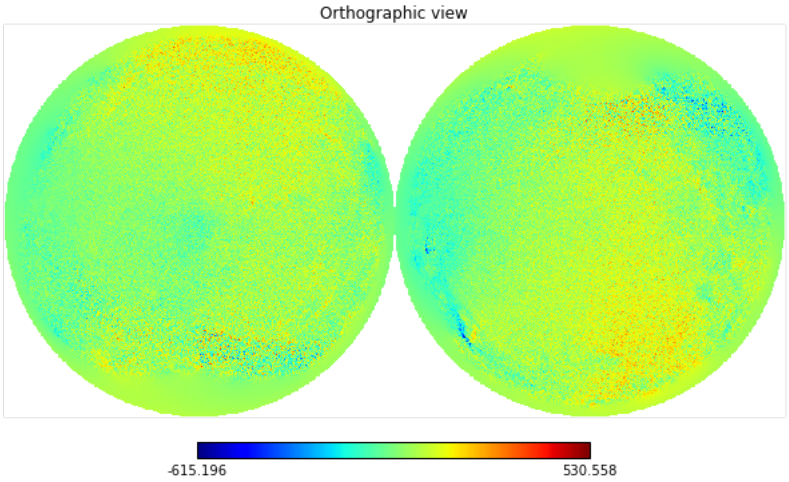
In [54]:
```
h.orthview(tebo1[1],rot=(0,90))
h.orthview(tebn1[1],rot=(0,90))
h.mollview((tebn1[1]-tebo1[1]),coord=("G","C"))
```

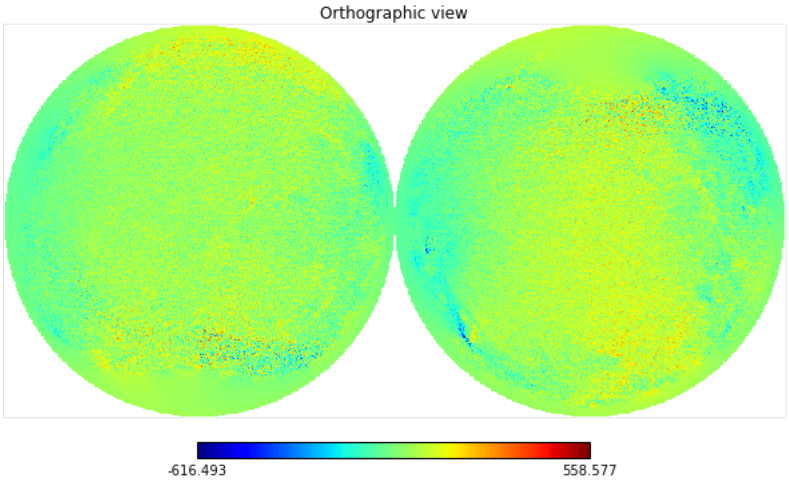

Orthographic view
-533.771
1311.38

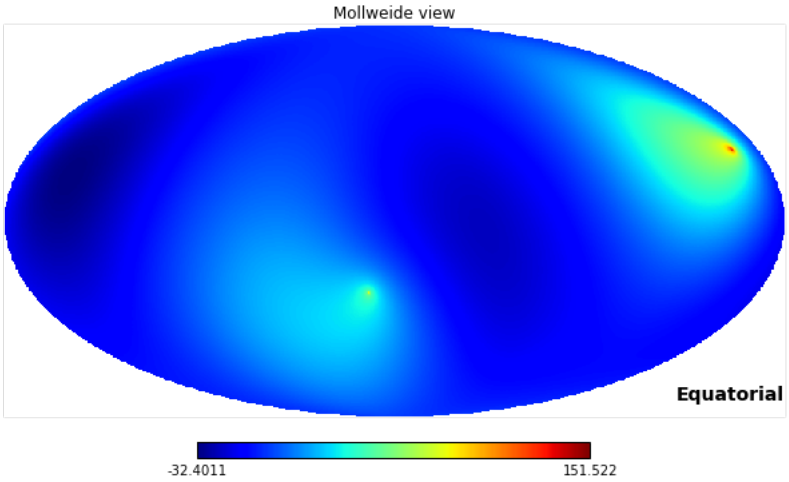

Orthographic view
-515.693
579.339


Mollweide view
Equatorial
-1313.31
70.8952

In [55]:
```
h.orthview(tebo2[2],rot=(0,90))
h.orthview(tebn2[2],rot=(0,90))
h.mollview((tebn2[2]-tebo2[2]),coord=("G","C"))
```



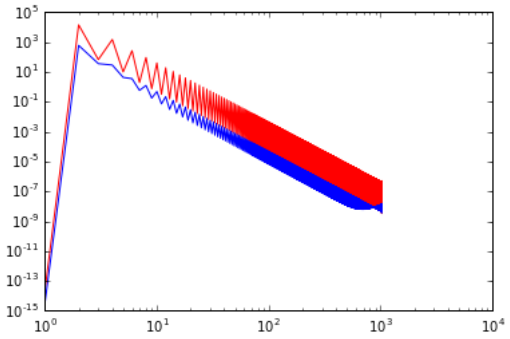




In [56]:
```
cldiff_e=h.alm2cl(h.map2alm(tebn[1]-tebo[1],lmax=1024))
cldiff_b=h.alm2cl(h.map2alm(tebn[2]-tebo[2],lmax=1024))
```

In [57]:
```
plot(cldiff_e,"r-")
plot(cldiff_b,"b-")
loglog()
```

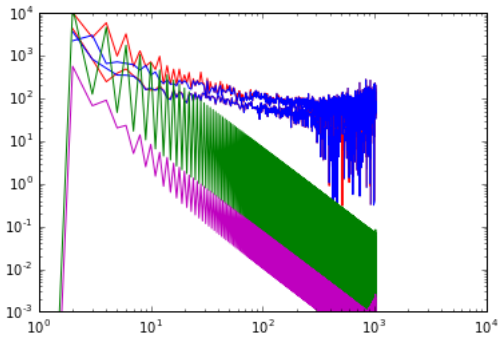
Out[57]: []



In [63]:
```
clbo=h.alm2cl(tebo1alm[2],tebo2alm[2])
clbn=h.alm2cl(tebn1alm[2],tebn2alm[2])
cleo=h.alm2cl(tebo1alm[1],tebo2alm[1])
clen=h.alm2cl(tebn1alm[1],tebn2alm[1])
```

In [66]:
```
ell=arange(1025)
f=ell*(ell+1)/(2*pi)
plot(ell,f*clbo,"r-")
plot(ell,f*clbn,"b-")
plot(ell,f*cleo,"r-")
plot(ell,f*clen,"b-")
plot(ell,f*cldiff_e,"g-")
plot(ell,f*cldiff_b,"m-")
loglog()
ylim(1e-3,1e4)
```

Out[66]: (0.001, 10000.0)



In [59]: