/home/smae/github/test_fig_stdout/tests/test_data
2025-05-28 21:16:34

cmemo

memo="GKV-plus f0.64 developed for pre-exa-scale computing"

calct

calc_type="nonlinear",
z_bound="outflow",
z_filt="off",
z_calc="cf4",
art_diff=0.1d0,
init_random=.false.,
num_triad_diag=0,
vp_coord=0

triad

mxt = 0, myt = 0/

equib

equib_type = "analytic"

run_n

inum=001,
ch_res = .false.

files

f_log="/data/lng/maeyama/gkvp/f0.64/benchmark/ITGae-nl/log/gkvp.",
f_hst="/data/lng/maeyama/gkvp/f0.64/benchmark/ITGae-nl/hst/gkvp.",
f_phi="/data/lng/maeyama/gkvp/f0.64/benchmark/ITGae-nl/phi/gkvp.",
f_fxv="/data/lng/maeyama/gkvp/f0.64/benchmark/ITGae-nl/fxv/gkvp.",
f_cnt="/data/lng/maeyama/gkvp/f0.64/benchmark/ITGae-nl/cnt/gkvp."

runlm

e_limit = 3600.d0

times

tend = 200.d0,
dtout_fxv = 10.d0,
dtout_ptn = 0.1d0,
dtout_eng = 0.1d0,
dtout_dtc = 0.1d0

deltt

dt_max = 0.01d0,
adapt_dt = .true.,
courant_num = 0.5d0,
time_advnc = "auto_init"

physp

R0_Ln = 2.22d0,
R0_Lt = 6.92d0,
nu = 1.d0,
Anum = 1.d0,
Znum = 1.d0,
fcs = 1.d0,
sgn = 1.d0,
tau = 1.d0,
dns1 = 1.d-2,
tau_ad = 1.d0,
lambda_i = 0.d0,
beta = 0.d0,
ibprime = 0,
vmax = 4.5d0,
nx0 = 10000

rotat

mach = 0.d0,
uprime = 0.d0,
gamma_e = 0.d0

nperi

```
n_tht = 1,
kymin = 0.05d0,
m_j   = 4,
del_c = 0.d0
```

confp

```
eps_r    = 0.18d0,
eps_rnew = 1.d0,
q_0      = 1.4d0,
s_hat    = 0.8d0,
lprd     = 0.d0,
mprd     = 0.d0,
eps_hor  = 0.d0,
eps_mor  = 0.d0,
eps_por  = 0.d0,
rdeps00  = 0.d0,
rdeps1_0 = 1.d0,
rdeps1_10= 0.d0,
rdeps2_10= 0.d0,
rdeps3_10= 0.d0,
malpha   = 0.d0
```

ring

```
ring_a = 0.5d0,
kxmin  = 0.05d0
```

vmecp

```
s_input = 0.5d0,
nss = 501,
ntheta = 384,
nzeta  = 0
```

bozxf

```
f_bozx="/data/lng/maeyama/gkvp/f0.64/benchmark/ITGae-nl/vmec/"
```

igsp

```
s_input = 0.5d0,
mc_type = 0,
q_type = 1,
nss = 101,
ntheta = 49
```

igsf

```
f_igs="/data/lng/maeyama/gkvp/f0.64/benchmark/ITGae-nl/eqdsk/"
```

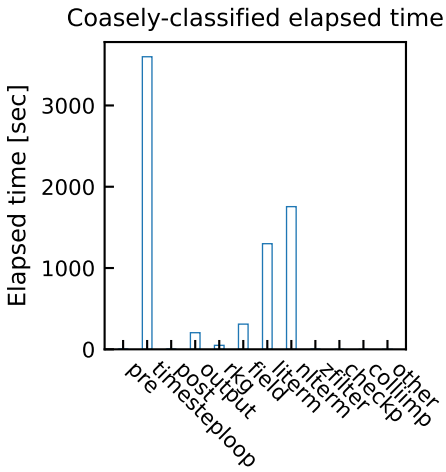
nu_ref

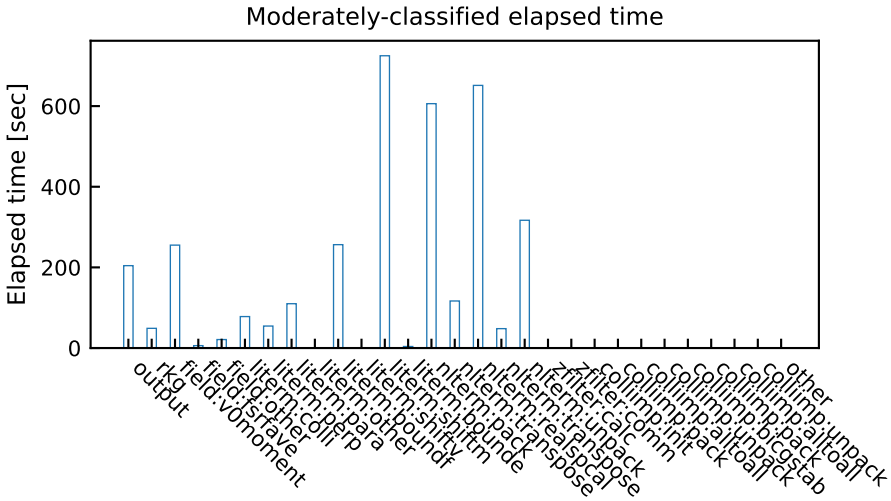
```
Nref = 4.5d19,
Lref = 1.7d0,
Tref = 2.d0,
col_type = "LB",
iFLR = 1,
icheck = 0
```

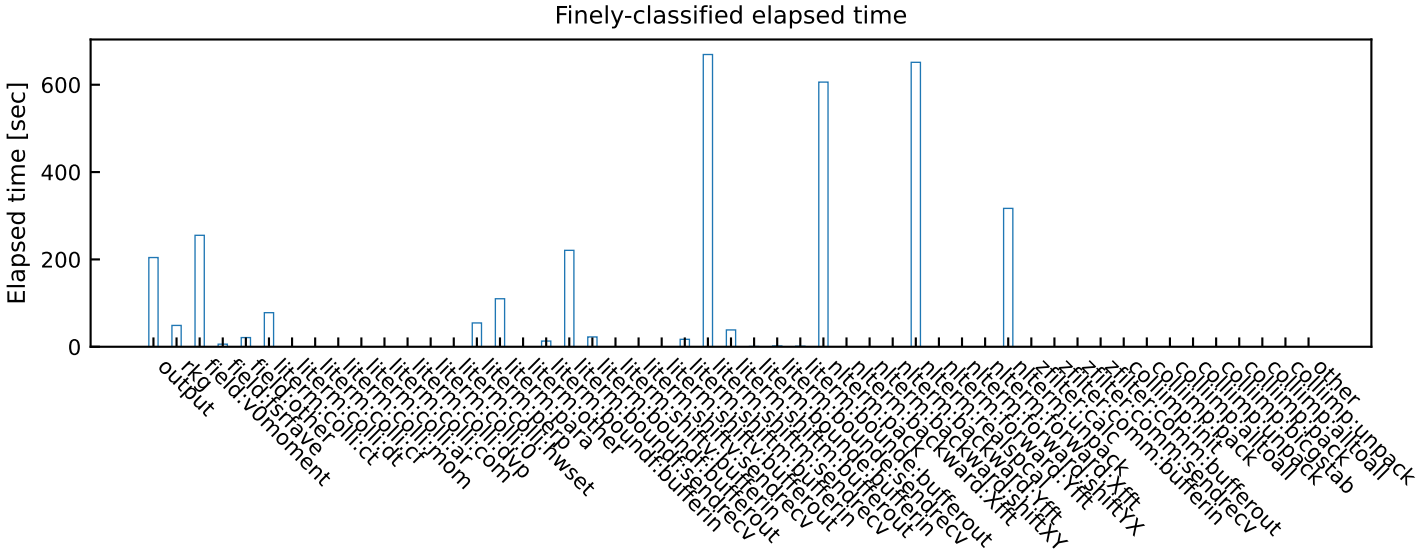
log

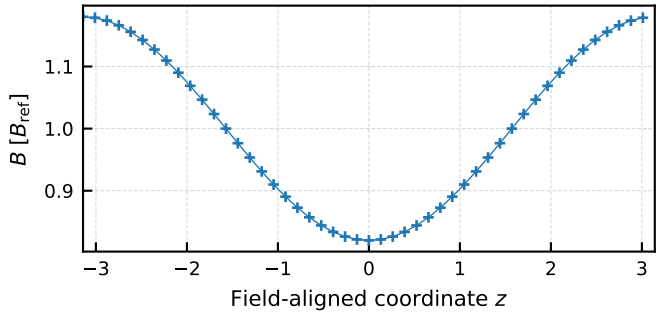
```
# nxw, nyw  =  84 42
# global_ny =  27
# global_nz =  24
# global_nv, global_nm =  32 15
# nx, ny, nz   =  55 13 6
# nv, nm       =  8 7
# nzb, nvb     =  2 2
# number of species  =  1
# nproc , rankg =  64 0

# q_0          =    1.3999999999999999
# s_hat        =    0.8000000000000000
# eps_r        =    0.1800000000000000

# lx, ly, lz   =   50.0000000000000000  62.8318530717958623   3.1415926535897931
# lz,   z0     =    3.1415926535897931  -3.1415926535897931
```

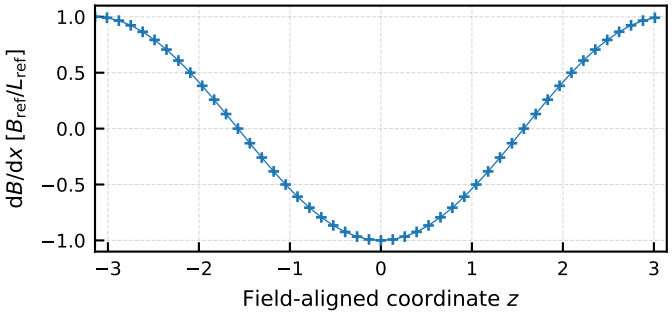
```
# lz_l, z0_l   =    0.7853981633974483  -3.1415926535897931
# kxmin, kymin =    6.2831853071795868E-02   5.0000000000000003E-02
# kxmax, kymax =    3.4557519189487729   1.3500000000000001
# kperp_max    =    3.7100837356208185
# m_j, del_c   =  4   0.0000000000000000
# dz           =    0.1308996938995747
# dv, vmax     =    0.1428571428571428   4.5000000000000000
# dm, mmax     =    0.3000000000000000   4.5000000000000000

# time_advnc   = auto_init
# flag_time_adv=  0
# courant num. =    0.5000000000000000
# dt_perp      =    1.0037137408411121E-02
# dt_zz        =    2.0362174606600510E-02
# dt_vl        =    5.4869684499314127E-02
# dt_col       =    1.5793231773418350
# dt_linear    =    1.0037137408411121E-02
# maximum time step dt_max =    1.0000000000000000E-02
# dt           =    1.0000000000000000E-02

# a, b, nu*_ab =  0 0   3.1502208398595292E-02
```

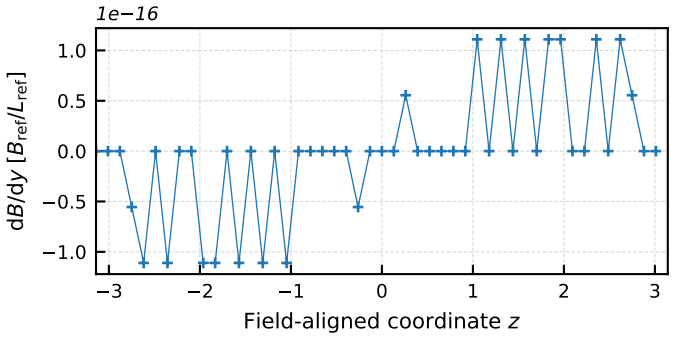

Coasely-classified elapsed time
Elapsed time [sec]
0
1000
2000
3000
pre
timesteploop
post
output
rkg
field
lterm
nlterm
zfilter
checkp
collimp
other

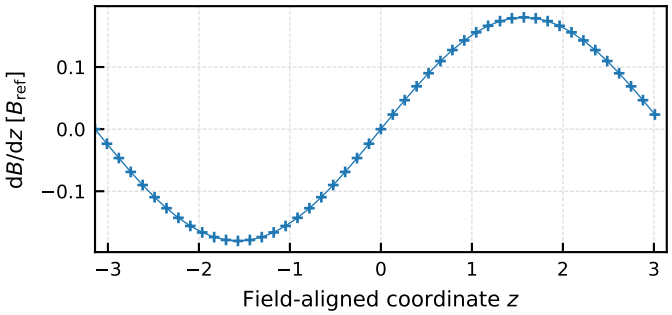

Moderately-classified elapsed time
Elapsed time [sec]
0
200
400
600
output
rkg
field:vomoment
field:sfrave
field:other
lterm:colli
lterm:para
lterm:other
lterm:boundf
lterm:shiftx
lterm:shiftm
lterm:bounde
lterm:pack
nlterm:transpose
nlterm:reasocal
zfilter:unpack
zfilter:calc
collimp:comm
collimp:init
collimp:pack
collimp:alltoall
collimp:unpack
collimp:bcgstab
collimp:packalltoall
other

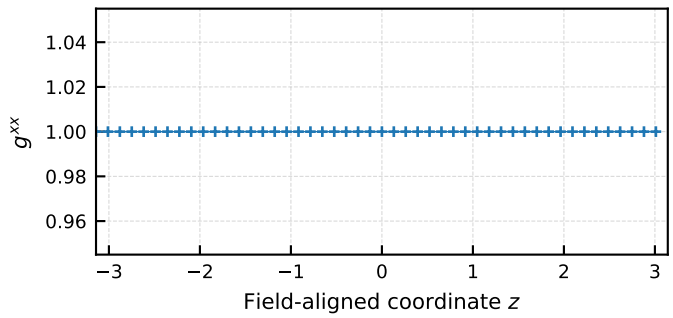

Finely-classified elapsed time
Elapsed time [sec]
0
200
400
600
output
rkg
field:vomoment
field:sfrave
field:other
lterm:colli:ct
lterm:colli:dt
lterm:colli:mom
lterm:colli:ar
lterm:colli:com
lterm:colli:dvp
lterm:colli:O
lterm:colli:nwset
lterm:para
lterm:other
lterm:boundf:sendrecv
lterm:boundf:buffer
lterm:shiftx:sendrecv
lterm:shiftx:bufferout
lterm:shiftx:bufferin
lterm:shiftm:sendrecv
lterm:shiftm:bufferout
lterm:shiftm:bufferin
lterm:bounde:sendrecv
lterm:bounde:bufferout
lterm:bounde:bufferin
lterm:pack
nlterm:backward:Xfft
nlterm:backward:shiftY
nlterm:forward:Yfft
nlterm:forward:shiftYX
zfilter:unpack
zfilter:calc
zfilter:comm:sendrecv
zfilter:comm:bufferin
collimp:comm:bufferout
collimp:init
collimp:pack
collimp:alltoall
collimp:unpack
collimp:bcgstab
collimp:packalltoall
other

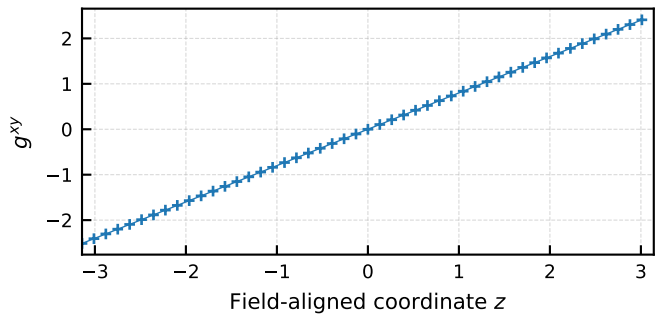

B [B_ref]
Field-aligned coordinate z

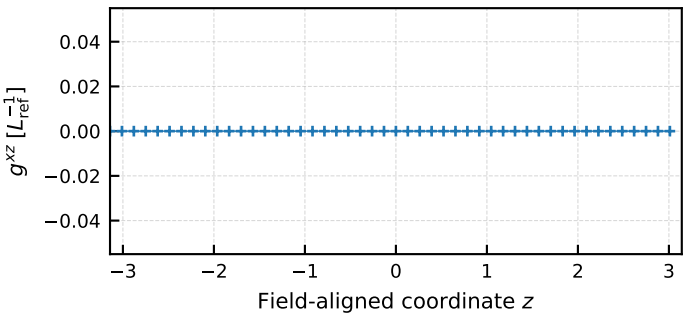

dB/dx [B_ref/L_ref]
Field-aligned coordinate z

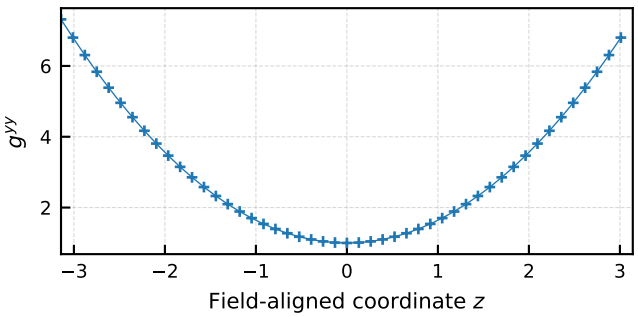

1e−16
dB/dy [B_ref/L_ref]
Field-aligned coordinate z

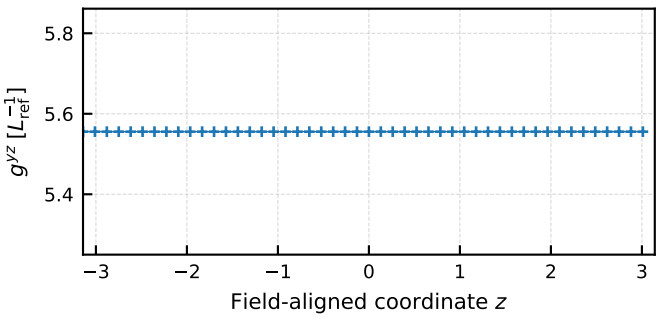

dB/dz [B_ref]
Field-aligned coordinate z

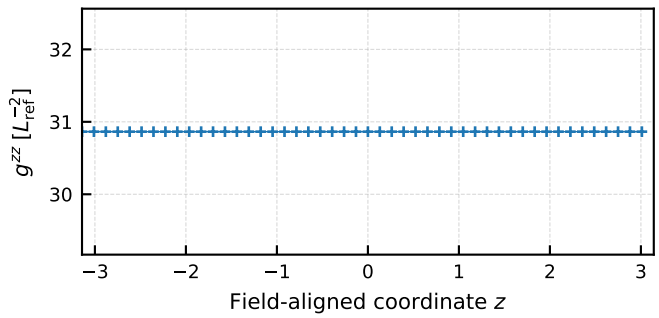

g^xx
Field-aligned coordinate z

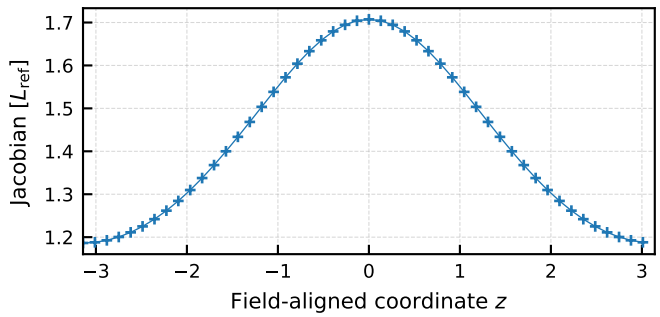

g^xy
Field-aligned coordinate z

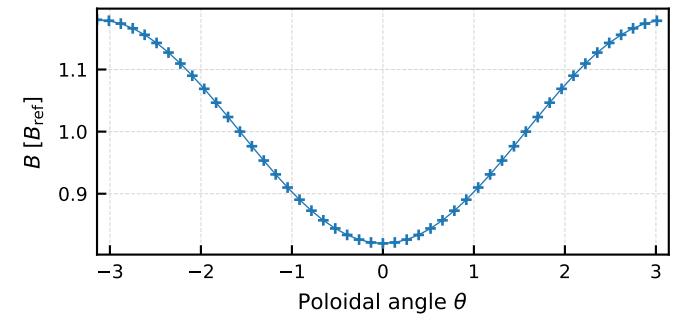

g^xz [L_ref^-1]
Field-aligned coordinate z

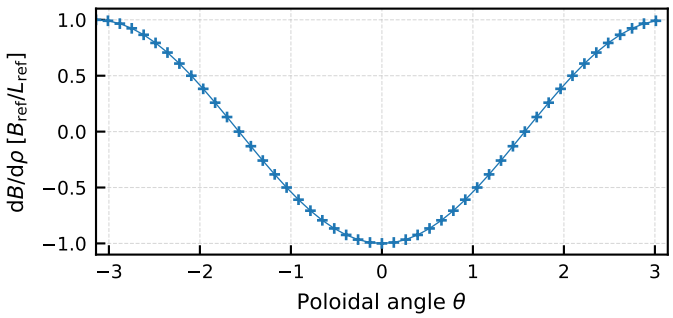

g^yy
Field-aligned coordinate z

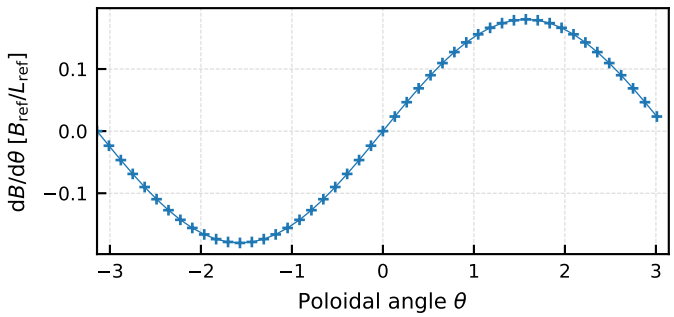

g^yz [L_ref^-1]
Field-aligned coordinate z

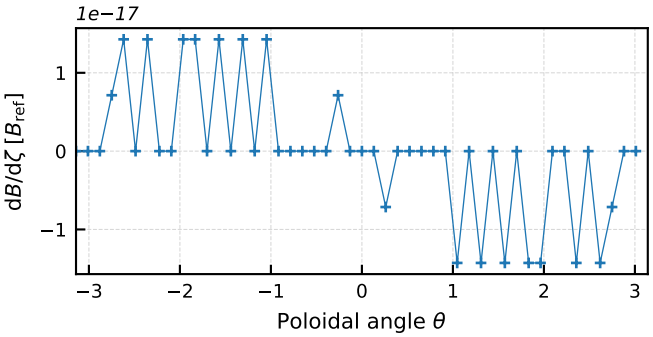

g^zz [L_ref^-2]
Field-aligned coordinate z

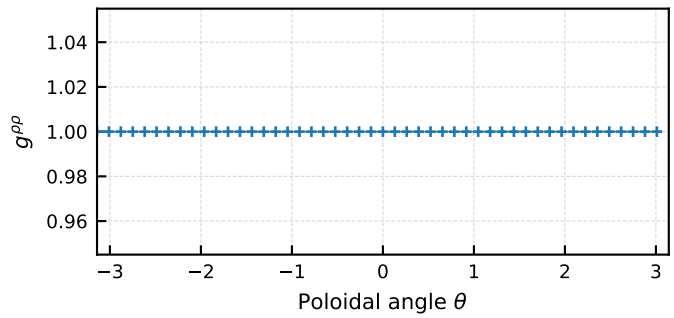

Jacobian [L_ref]
Field-aligned coordinate z

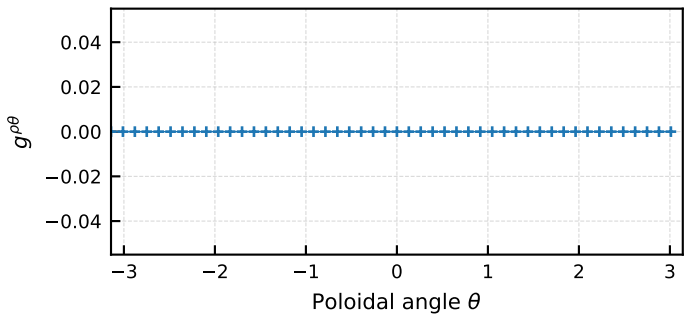

B [B_{ref}]
Poloidal angle θ

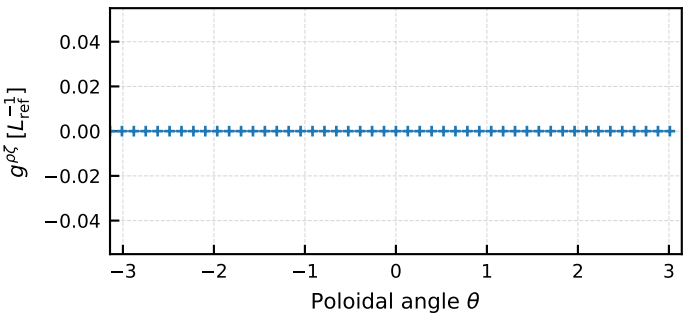

dB/dρ [$B_{\mathrm{ref}}/L_{\mathrm{ref}}$]
Poloidal angle θ

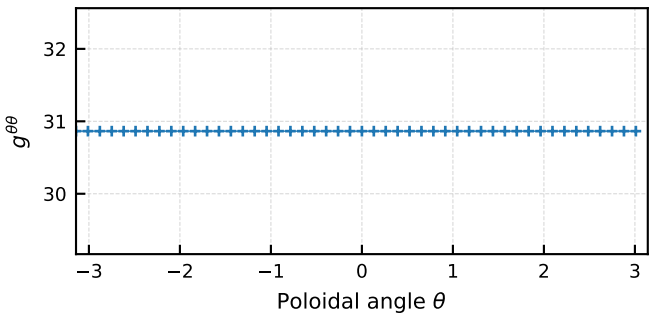

dB/dθ [$B_{\mathrm{ref}}/L_{\mathrm{ref}}$]
Poloidal angle θ

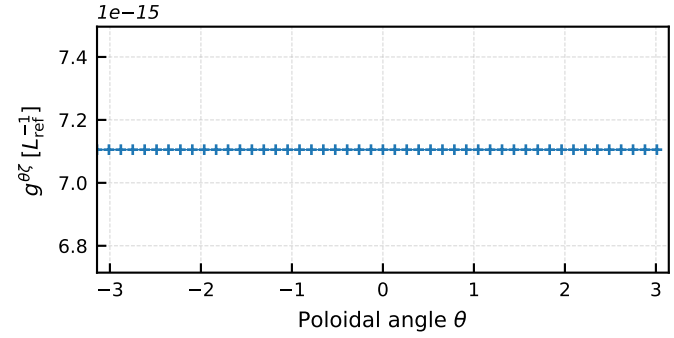

1e−17
dB/dζ [B_{ref}]
Poloidal angle θ

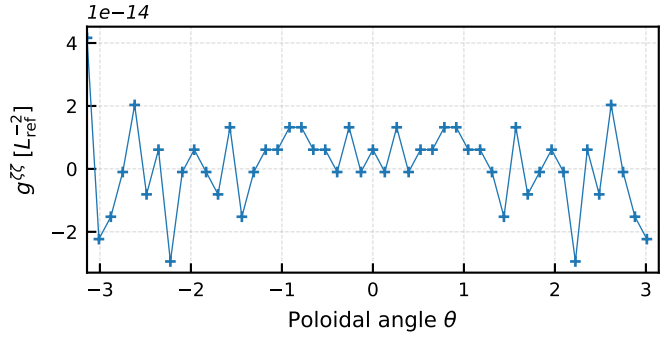

$g^{\rho\rho}$
Poloidal angle θ

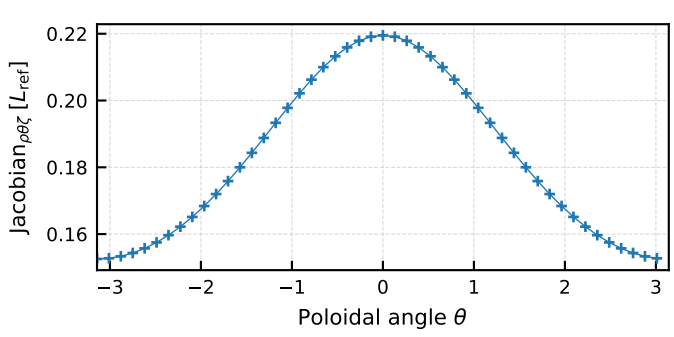

$g^{\rho\theta}$
Poloidal angle θ

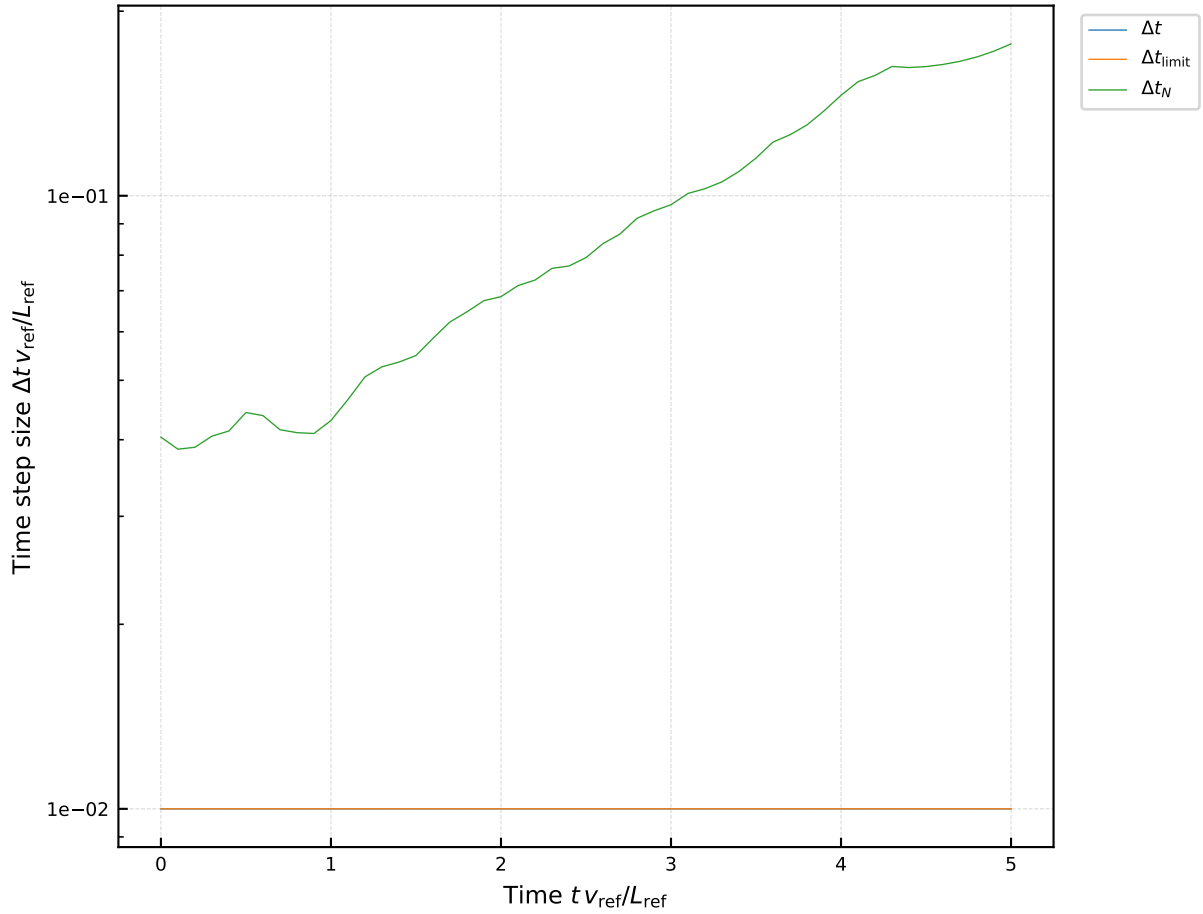

$g^{\rho\zeta}$ [L_{ref}^{-1}]
Poloidal angle θ

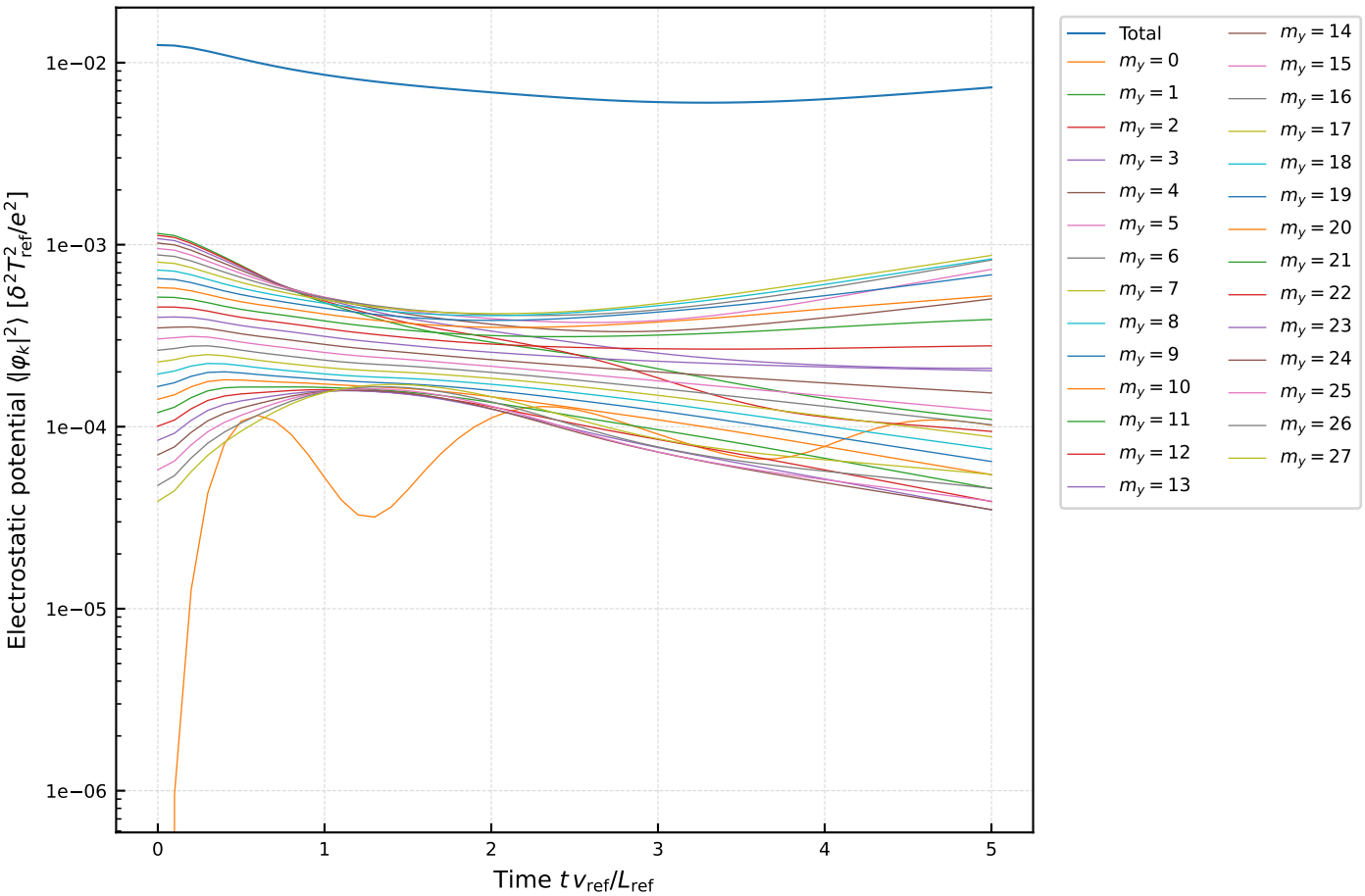

$g^{\theta\theta}$
Poloidal angle θ

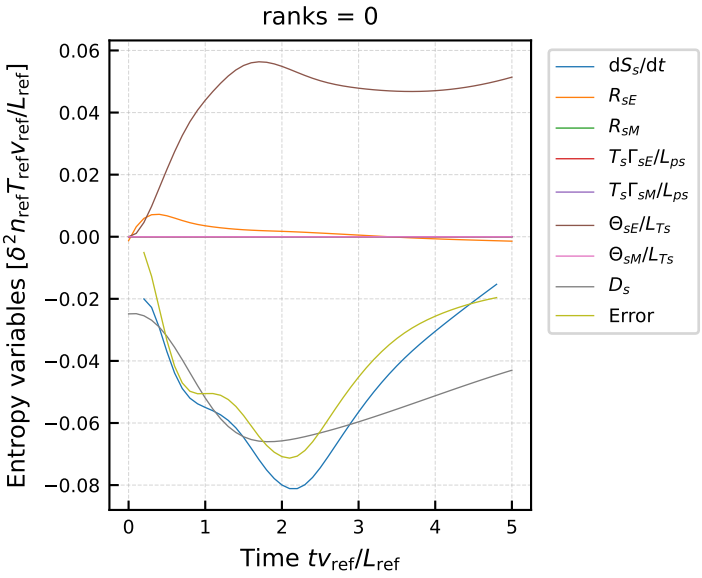

1e−15
$g^{\theta\zeta}$ [L_{ref}^{-1}]
Poloidal angle θ

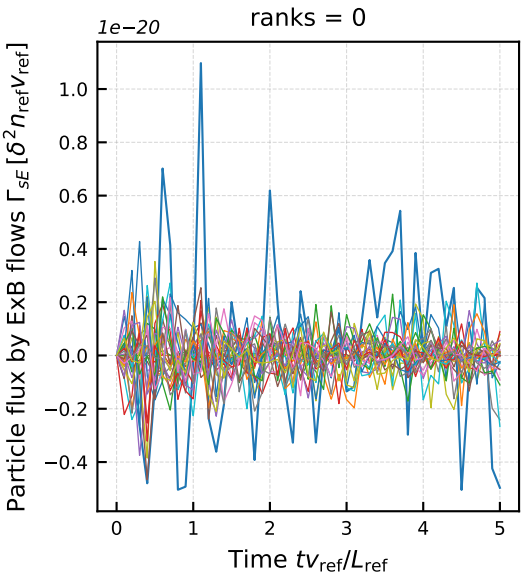

1e−14
$g^{\zeta\zeta}$ [L_{ref}^{-2}]
Poloidal angle θ

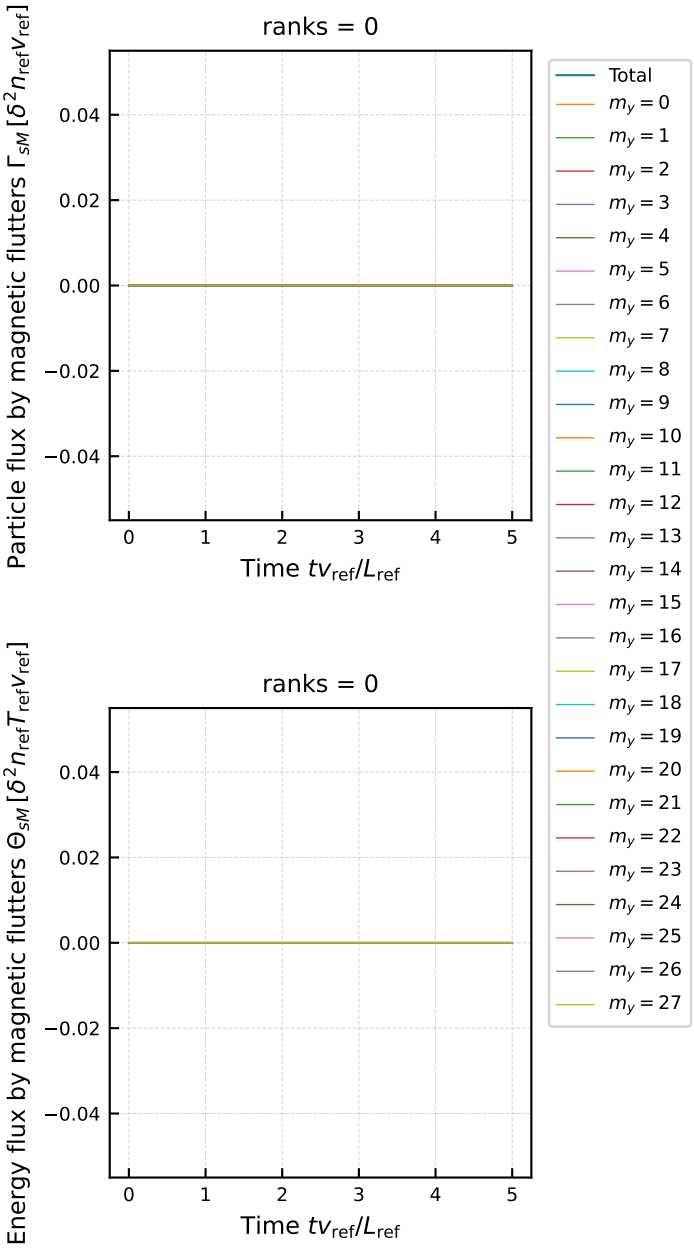

Jacobian$_{\rho\theta\zeta}$ [L_{ref}]
Poloidal angle θ

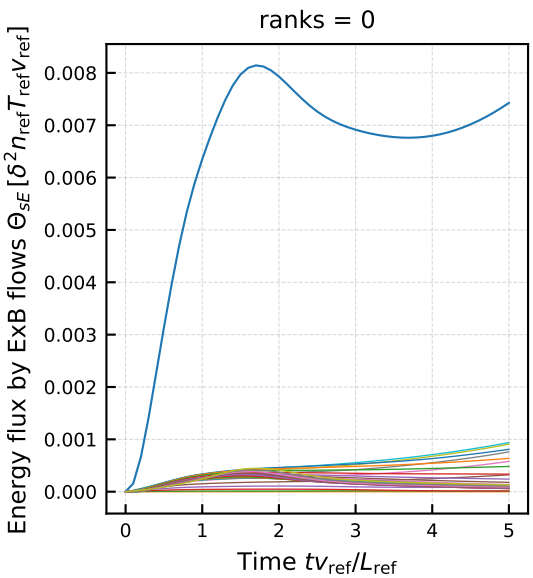

Δt
Δt_limit
Δt_N
1e−01
1e−02
Time step size Δt v_ref/L_ref
0
1
2
3
4
5
Time t v_ref/L_ref


Total
m_y = 0
m_y = 1
m_y = 2
m_y = 3
m_y = 4
m_y = 5
m_y = 6
m_y = 7
m_y = 8
m_y = 9
m_y = 10
m_y = 11
m_y = 12
m_y = 13
m_y = 14
m_y = 15
m_y = 16
m_y = 17
m_y = 18
m_y = 19
m_y = 20
m_y = 21
m_y = 22
m_y = 23
m_y = 24
m_y = 25
m_y = 26
m_y = 27
1e−02
1e−03
1e−04
1e−05
1e−06
Electrostatic potential ⟨|φ_k|²⟩ [δ²T²_ref/e²]
0
1
2
3
4
5
Time t v_ref/L_ref

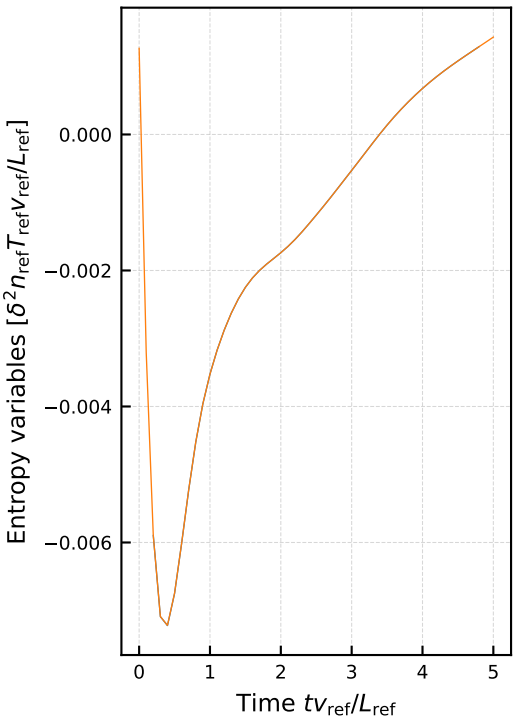

ranks = 0
Entropy variables $[\delta^2 n_{\mathrm{ref}} T_{\mathrm{ref}} v_{\mathrm{ref}}/L_{\mathrm{ref}}]$
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$
$\mathrm{d}S_s/\mathrm{d}t$
R_{sE}
R_{sM}
$T_s\Gamma_{sE}/L_{ps}$
$T_s\Gamma_{sM}/L_{ps}$
Θ_{sE}/L_{Ts}
Θ_{sM}/L_{Ts}
D_s
Error

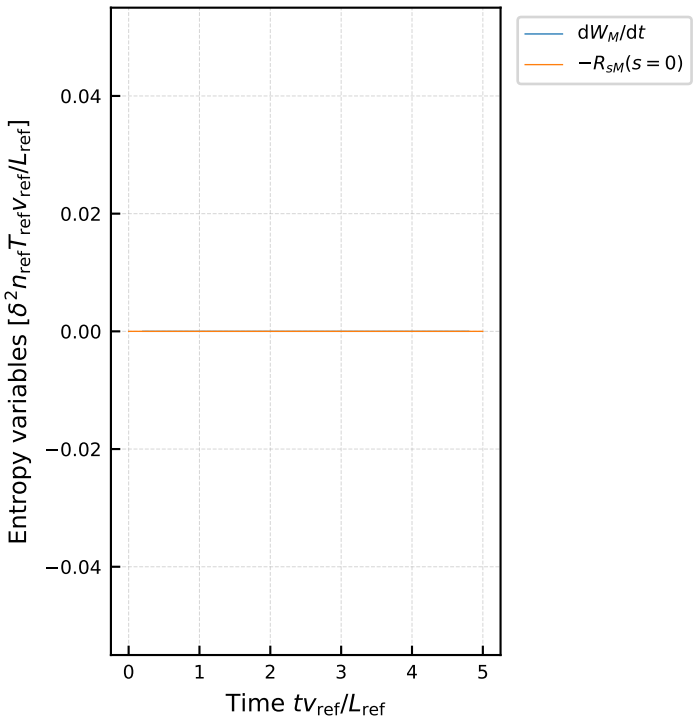

ranks = 0
1e−20
Particle flux by ExB flows Γ_{sE} $[\delta^2 n_{\mathrm{ref}} v_{\mathrm{ref}}]$
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$

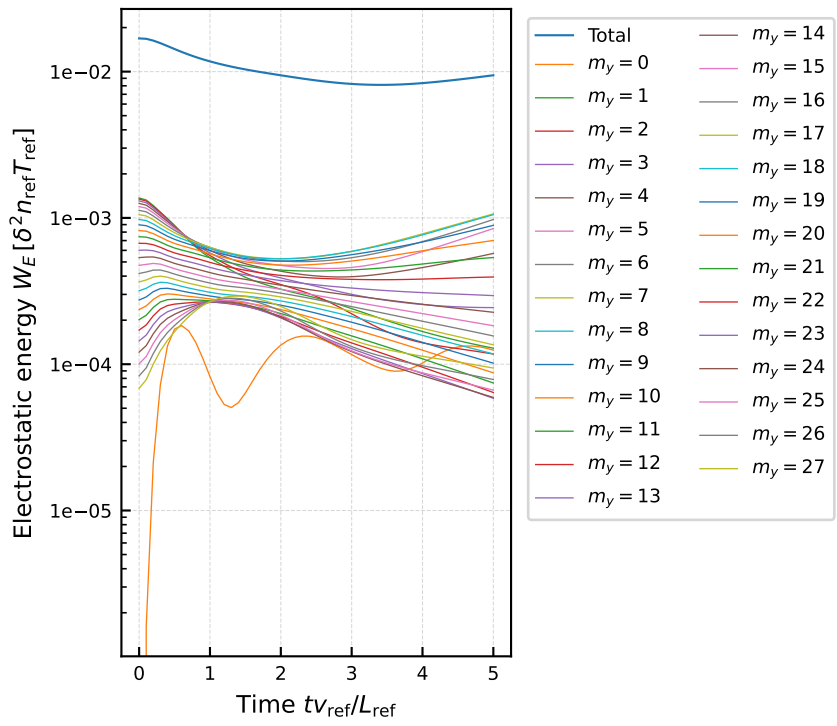

ranks = 0
Particle flux by magnetic flutters Γ_{sM} $[\delta^2 n_{\mathrm{ref}} v_{\mathrm{ref}}]$
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$
Total
$m_y = 0$
$m_y = 1$
$m_y = 2$
$m_y = 3$
$m_y = 4$
$m_y = 5$
$m_y = 6$
$m_y = 7$
$m_y = 8$
$m_y = 9$
$m_y = 10$
$m_y = 11$
$m_y = 12$
$m_y = 13$
$m_y = 14$
$m_y = 15$
$m_y = 16$
$m_y = 17$
$m_y = 18$
$m_y = 19$
$m_y = 20$
$m_y = 21$
$m_y = 22$
$m_y = 23$
$m_y = 24$
$m_y = 25$
$m_y = 26$
$m_y = 27$


ranks = 0
Energy flux by ExB flows Θ_{sE} $[\delta^2 n_{\mathrm{ref}} T_{\mathrm{ref}} v_{\mathrm{ref}}]$
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$

ranks = 0
Energy flux by magnetic flutters Θ_{sM} $[\delta^2 n_{\mathrm{ref}} T_{\mathrm{ref}} v_{\mathrm{ref}}]$
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$


Entropy variables $[\delta^2 n_{\mathrm{ref}} T_{\mathrm{ref}} v_{\mathrm{ref}}/L_{\mathrm{ref}}]$
0.000
−0.002
−0.004
−0.006
0
1
2
3
4
5
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$


Entropy variables $[\delta^2 n_{\mathrm{ref}} T_{\mathrm{ref}} v_{\mathrm{ref}}/L_{\mathrm{ref}}]$
0.04
0.02
0.00
−0.02
−0.04
0
1
2
3
4
5
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$
$\mathrm{d}W_M/\mathrm{d}t$
$-R_{sM}(s=0)$


Electrostatic energy $W_E\,[\delta^2 n_{\mathrm{ref}} T_{\mathrm{ref}}]$
1e−02
1e−03
1e−04
1e−05
0
1
2
3
4
5
Time $tv_{\mathrm{ref}}/L_{\mathrm{ref}}$
Total
$m_y = 0$
$m_y = 1$
$m_y = 2$
$m_y = 3$
$m_y = 4$
$m_y = 5$
$m_y = 6$
$m_y = 7$
$m_y = 8$
$m_y = 9$
$m_y = 10$
$m_y = 11$
$m_y = 12$
$m_y = 13$
$m_y = 14$
$m_y = 15$
$m_y = 16$
$m_y = 17$
$m_y = 18$
$m_y = 19$
$m_y = 20$
$m_y = 21$
$m_y = 22$
$m_y = 23$
$m_y = 24$
$m_y = 25$
$m_y = 26$
$m_y = 27$