# hdfint

All the output information is contained in `ext.sp.h5`.

[called by: xspech.]

## contents



1. In addition to the input variables, which are described in global, the following quantities are written to `ext.sp.h5` :

| variable | type | description |
|---|---|---|
| `mn` | integer | number of Fourier modes |
| `im(1:mn)` | integer | poloidal mode numbers |
| `in(1:mn)` | integer | toroidal mode numbers |
| `Mvol` | integer | number of interfaces = number of volumes |
| `iRbc(1:mn,0:Mvol)` | real | Fourier harmonics, $R_{m,n}$, of interfaces |
| `iZbs(1:mn,0:Mvol)` | real | Fourier harmonics, $Z_{m,n}$, of interfaces |
| `iRbs(1:mn,0:Mvol)` | real | Fourier harmonics, $R_{m,n}$, of interfaces |
| `iZbc(1:mn,0:Mvol)` | real | Fourier harmonics, $Z_{m,n}$, of interfaces |
| `forcetol` | real | force-balance error across interfaces |
| `ForceErr` | real | force-balance error across interfaces |
| `volume` | real | total volume = $\sum V_v$ |
| `Mrad` | integer | the maximum radial (Chebyshev) resolution |
| `TT(0:Mrad,0:1,0:1)` | real | the Chebyshev polynomials, $T_l$, and their derivatives, evaluated at $s = \pm 1$ |
| `Btemn(1:mn,0:1,1:Mvol)` | real | the cosine harmonics of the covariant poloidal field, i.e. $[[B_{\theta,j}]]$ evaluated on the inner and outer interface in each volume |
| `Bzemn(1:mn,0:1,1:Mvol)` | real | the cosine harmonics of the covariant toroidal field, i.e. $[[B_{\zeta,j}]]$ evaluated on the inner and outer interface in each volume |
| `Btomn(1:mn,0:1,1:Mvol)` | real | the sine harmonics of the covariant poloidal field, i.e. $[[B_{\theta,j}]]$ evaluated on the inner and outer interface in each volume |
| `Bzomn(1:mn,0:1,1:Mvol)` | real | the sine harmonics of the covariant toroidal field, i.e. $[[B_{\zeta,j}]]$ evaluated on the inner and outer interface in each volume |
| `dRbc(1:mn,0:Nvol)` | real | Fourier harmonics, $R_j$, of interfaces; linearly perturbed solution |
| `dZbs(1:mn,0:Nvol)` | real | Fourier harmonics, $Z_j$, of interfaces; linearly perturbed solution |
| `dRbs(1:mn,0:Nvol)` | real | Fourier harmonics, $R_j$, of interfaces; linearly perturbed solution |
| `dZbc(1:mn,0:Nvol)` | real | Fourier harmonics, $Z_j$, of interfaces; linearly perturbed solution |
| `lmns` | integer | resolution of straight fieldline transformation |

2. All quantities marked as real should be treated as double precision.