

Function GET_MW – single-thread version:

```
res = call_external(libname, 'GET_MW', Lparms, Rparms, Parms, $  
                        T_arr, DEM_arr, DDM_arr, RL)
```

Function parameters:

0. Lparms – 5-element long integer array of dimensions and global (for all voxels) integer parameters (see below).
1. Rparms – 3-element double array of global (for all voxels) real parameters (see below).
2. Parms – array of LOS parameters, $15 \times N_z$ elements, double (see below).
3. T_arr – array of temperatures where DEM/DDM are specified, NT elements, double, in K (the temperature grid is assumed to be the same in all voxels, and the same for both DEM and DDM).
4. DEM_arr – array of DEM, $NT \times N_z$, double, in $\text{cm}^{-6} \text{K}^{-1}$.
5. DDM_arr – array of DDM, $NT \times N_z$, double, in $\text{cm}^{-3} \text{K}^{-1}$.
6. RL – input/output array, $7 \times N_f$, double:
 - a. first row (RL[0, *]) – emission frequencies, in GHz;
 - b. other rows – emission intensities, in sfu.

Array of dimensions and global integer parameters:

Lparms = [Nz, Nf, NT, DEM_key, DDM_key]

0. Nz – number of voxels along LOS;
1. Nf – number of frequencies in the spectrum;
2. NT – number of temperatures in the T_arr array; must be ≥ 2 – otherwise DEM/DDM are ignored;
3. DEM_key – global DEM on/off key.
 - a. 0: DEM is enabled: it can be used in all or some voxels, depending on the local DEM on/off keys (see below).
 - b. $\neq 0$: DEM is disabled for all voxels, regardless of the local DEM on/off keys.
4. DDM_key – global DDM on/off key: same as above, but for DDM.

Array of global real parameters:

Rparms = [S, f_0 , Δf]

0. S – visible source area, in cm^2 .
1. f_0 – starting frequency of the spectrum, in Hz:
 - a. is used, only if $f_0 > 0$;
 - b. if $f_0 \leq 0$, the frequencies are taken from the RL[0, *] array.
2. Δf – logarithmic frequency step (is used only if $f_0 > 0$).

Array of parameters ParmS (for a single voxel):

0. ParmS[0] = Δz – voxel length, in cm.
1. ParmS[1] = T_0 – plasma temperature, in K (is used if DEM or DDM are not specified).
2. ParmS[2] = n_e – electron concentration, in cm^{-3} (is used if DEM or DDM are not specified).
3. ParmS[3] = B – magnetic field strength, in G.
4. ParmS[4] = θ – viewing angle, in degrees.
5. ParmS[5] = φ – magnetic field azimuthal angle, in degrees.
6. ParmS[6] – emission mechanism flag (rounded to the nearest integer):
 - a. 0: all emission mechanisms (gyroresonance + free-free + contribution of neutrals) are included;
 - b. 1: gyroresonance is off;
 - c. 2: free-free is off;
 - d. 4: contribution of neutrals is off.

Several flags can be combined by usual or bitwise summation: e.g., mechanism flag = 2 + 4 turns off both free-free and contribution of neutrals, etc.
7. ParmS[7] = s_{max} – maximum cyclotron harmonic number.
8. ParmS[8] = n_{Htotal} – total hydrogen concentration, in cm^{-3} (is used if DEM or DDM are not specified, and $n_e = n_{\text{HI}} = n_{\text{HeI}} = 0$).
9. ParmS[9] = n_{HI} – neutral hydrogen concentration, in cm^{-3} .
10. ParmS[10] = n_{HeI} – neutral helium concentration, in cm^{-3} .
11. ParmS[11] – local DEM on/off key:
 - a. 0: DEM is used (provided that $\text{NT} \geq 2$ and DEM is enabled by the global key);
 - b. $\neq 0$: DEM in this voxel is ignored even if it is specified; T_0 and n_e (or n_{Htotal} , if $n_e = n_{\text{HI}} = n_{\text{HeI}} = 0$) are used instead.
12. ParmS[12] – local DDM on/off key: same as above, but for DDM.
13. ParmS[13] – element abundance model:
 - a. 0: coronal;
 - b. 1: photospheric (Caffau);
 - c. 2: photospheric (Scott).
14. ParmS[14] = Vox_ID – voxel type (coronal / chromospheric /etc.), currently ignored.