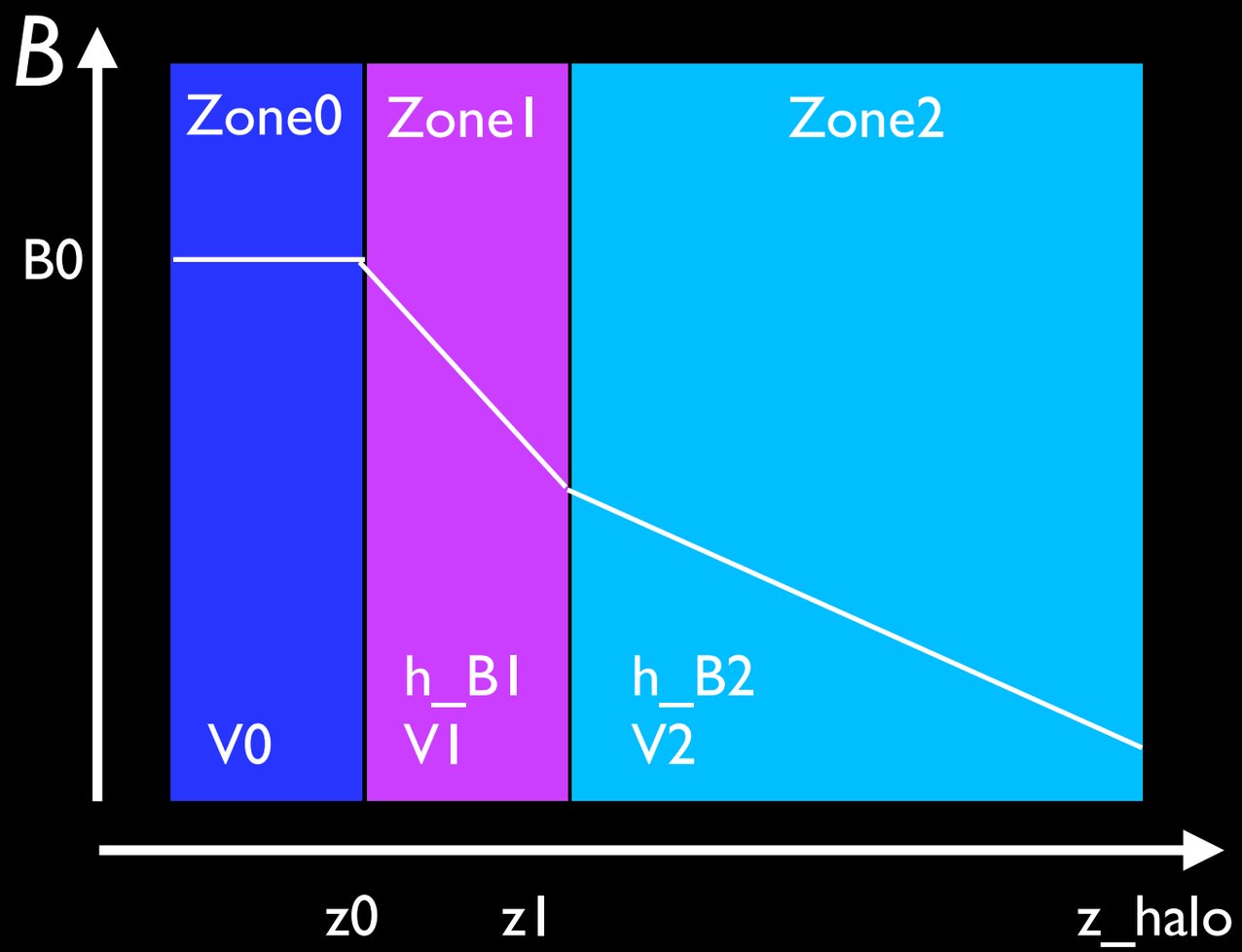
Magnetic field strength

3-zone model



U_rad/U_B= rad. energy dens. (without CMB)
nu_low/nu_high: used for radio spectral index

Example parameter file (northern halo of NGC7090)

```
#Parameter file for spectral index code
c_light = 2.99792458e10#[cm s^-1]
parsec = 3.085677582e18#[cm]
pi = 3.141565492#
sigma_t = 6.6524616e-25#[cm^2]
m_electron = 9.1093897e-28#[g]
e_elem = 1.60217733e-19#
grid_size = 200#<=400; Number of grip points in z
grid_delta = 1#Every x_th grid point is written in output file
z_halo = 10.0e3#Halo size [kpc]
mode_0 = 1#Transport mode in zone 0: Advection: 1; Diffusion: 2
mode_1 = 1#Transport mode in zone 1
mode_2 = 1#Transport mode in zone 2
D0 = 2.0e24#Diffusion coefficient in zone 0 [cm^2 s^-1]
D1 = 0.6e24#Diffusion coefficient in zone 1 [cm^2 s^-1]
D2 = 7.0e24#Diffusion coefficient in zone 2 [cm^2 s^-1]
mu_diff = 0.5#Energy dependence D=D_{0,1,2}*E_GeV^mu_diff
v0 = 200.0e5#Advection speed in zone 0 [cm s^-1]
v1 = 150.0e5#Advection speed in zone 1 [cm s^-1]
v2 = 150.0e5#Advection speed in zone 2 [cm s^-1]
nu_low = 1.4e9#Lower frequency [Hz]
nu_high = 4.7e9#Upper frequency [Hz]
nu_channel = 400#<=400; Number of grid points in frequency
gamma_in = 3.0#Injection CRe index
B0 = 10.e-6#magnetic field strength [G], 1mikroGauss=1.0e-10Tesla
rad_field = 0.313#=U_IRF/U_B (radiation energy density, excluding CMB)
z0 = 0.#Transition from zone 0 to zone 1 [kpc]
h_B1 = 0.8#Scaleheight of the B-field in zone 1 [kpc]
z1 = 5.5#Transition from zone 1 to zone 2 [kpc]
h_B2 = 5.5#Scaleheight of the B-field in zone 2 [kpc]
#Below is the option so have a power-law B distribution for jets
power_law = 0#exponential B-field:0; power-law B-field:1
R0 = 6.#Radius of the jet at z0 in kpc
R1 = 10.#Radius of the jet at z1 in kpc
R2 = 15.#Radius of the jet at z_halo in kpc
z_red=0.0#Redshift; time delation is not yet implemented, leave z=0
```