```
CermitESR frfLoop(B0, B1, cantilever, f rf, grid, h, magnet, mw x 0p, sample)
returns: df spin
graph: cornell esr graph
handler: MemHandler
modifiers:
 - replace component({'magnet': ['Bz method', 'Bzxx method'], 'sample': ['J',
 'Gamma', 'spin density', 'temperature', 'dB sat', 'dB hom'], 'grid':
 ['grid_array', 'grid_shape', 'grid_step', 'grid_voxel', 'extend_grid_method'],
 'cantilever': ['dk to df ac cermit']})
Simulates a Cornell-style frequency shift magnetic resonance force microscope
 experiment in which microwaves are applied for half a cantilever cyclic to
 saturate electron spin resonance in a bowl-shaped region swept out by the
 cantilever motion.
                           convert microwave x 0p
                           convert grid pts(mw x 0p, grid step)
                           return: ext pts
                           functype: callable
                           Convert distance to ext points.
                                  ext pts
      extended ogrid
      <lambda>(extend grid method, ext pts)
      return: ext ogrid
      functype: lambda
      Lambda expression: extend grid method(ext pts)
                    ext_ogrid
            extended sample ogrid
            ogrid sub(ext ogrid, h)
            return: ext sample ogrid
            functype: callable
            Subtraction method used for ogrid.
            ext sample ogrid
   extended Bz
   <lambda>(Bz method, ext sample ogrid)
   return: ext Bz
   functype: lambda
   Lambda expression: Bz method(*ext sample ogrid)
                                                      ext_pts
                      ext Bz
                     extended B total
                     add(ext Bz, B0)
                     return: ext B tot
                     functype: builtin
                     Same as a + b.
                    ext_B_tot
         B total
                                                                            sample ogrid
         slice_matrix(ext B tot, grid shape)
                                                                            ogrid_sub(grid_array, h)
                                                                            return: sample ogrid
         return: B tot
                                                     ext_B_tot
                                                                            functype: callable
         functype: callable
         Slice numpy matrix.
                                                                            Subtraction method used for ogrid.
                                                                                sample ogrid
                     B tot
equilibrium magnetization per spin
                                                                    Bzxx
mz eq(B tot, Gamma, J, temperature)
                                                                    <lambda>(Bzxx method, sample ogrid)
return: mz eq
                                                                    return: Bzxx
functype: callable
                                                                    functype: lambda
Magnetization per spin at the thermal equilibrium
                                                                    Lambda expression: Bzxx method(*sample ogrid)
 using the Brillouin function.
                                                                       Bzxx
                                  mz_eq
                                subnode f rf
                                submodel f rf(B1, Bzxx, Gamma, dB hom, dB sat,
                                  dk to df ac cermit, ext B tot, ext pts, f rf,
                                 grid voxel, mz eq, spin density)
                                return: df spin
                                functype: mmodel.Model
                                modifiers:
                                  - loop input('f rf')
                                Submodel generated by loop shortcut for parameter
                                  'f rf'.
```