

```
1  ! modules and global parameters
2  include 'mod kind types.f90'
3  include 'mod constants and parameters.f90'
4  include 'mod linear regression.f90'
5  include 'mod quality measures.f90'
6  include 'mod surface fit.f90'
7  include 'mod timer.f90'
8  include 'mod plasma.f90'
9  include 'mod Helios output.f90'
10 include 'mod compiler.f90'
11 include 'mod Helios.f90'
12 include 'mod system_info.f90'
13 include 'mod input parameters.f90'
14
15 program main
16
17 use system_info_mod
18 use plasma
19 use compiler
20 use cpu_timer_class
21 use clock_timer_class
22 use HELIOS_data
23 use input_parameters
24 implicit none
25
26 type ( HELIOS )           :: HeB_emmissivity ! instantiate cla
27 type ( HELIOS )           :: LyB_emmissivity ! instantiate cla
28 type ( HELIOS )           :: HeB_opacity     ! instantiate cla
29 type ( HELIOS )           :: LyB_opacity     ! instantiate cla
30
31 type ( thermo )           :: DT              ! line of sight
32
33 type ( system_info )      :: job              ! system level in
34
35 type ( input_deck )       :: parameters      ! domain and toy r
36
37 type ( cpu_timer )        :: cpu_self        ! instantiate CPU
```

[illegible]

75
76
77
78
79
80
81
82
83
84
85
86
87
88
89
90
91
92
93
94
95
96
97
98
99
100
101
102
103
104
105
106
107
108
109
110
111

[illegible]

```
112   end program main
113
114   ! assortment of utility routines
115
116   include 'sub routines.f90'
```