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eikonal_s.f takes input from a user specified filename with the
format below. It calculates the eikonal S-matrix S(b) according
to one of a number of complex potential forms that are specified
as either: calc, chap, read, gaus (see below).  The name of the
S-matrix output file is prompted for upon running the code.
Output in S-matrix file is:
no_points   b_step
b  Re.S(b)  Im.S(b)   |S(b)|
.....



%-------------------------------------------------------------
0.   1.   6.  12.
80.0
0.05     601
0.  30.  0.1
1.25
calc
37.4    1.20   0.75
calc
10.0    1.30   0.60
 0.0    1.30   0.60


%-------------------------------------------------------------
% Potentials --> eikonal S-matrix S(b): input data
%-------------------------------------------------------------
% projectile : target:  z1, mass1  z2, mass2
% incident energy per nucleon in lab: elab
% integration step and number of steps:  drx,nx
% impact parameter range and step for S(b): bmin,bmax,bstep
%        recommend 0.   30.   0.1 for input to other codes
% Coulomb radius parameter: rc
% real potential options: calc, chap, read, gaus
%   use chapel hill global set if chap used
%   provide volume  parameters vr,rr,ar if calc is used
%   potential numbers must be in file if read is used
%   (input file format is produced by jlmP.f)
%   provide volume  parameters vr,rr if gaus is used
% imag potential options: calc, chap, read, gaus
%   use chapel hill global set if chap used
%   provide volume  parameters wv,riv,aiv if calc is used
%   provide surface parameters ws,ris,ais if calc is used
%   potential numbers must be in file if read is used
%   (input file format is produced by jlmP.f)
%   provide volume  parameters wv,riv if gaus is used
%-------------------------------------------------------------
% NB: all radius parameters are multiplied by target mass2**(1/3)
%     unless the projectile mass (mass1) is four or greater: i.e.
%     a13=mass2**0.3333333333333d0
%     if(mass1.gt.4.d0) a13=a13+mass1**0.3333333333333d0
%-------------------------------------------------------------


calc
37.4    1.20   0.75
calc
10.0    1.30   0.60
 0.0    1.30   0.60

chap
```