jlm calculates the nucleon optical potential based on

(1) an assumed target nuclear density

(2) using the effective interaction of Jeukenne-Lejeune-Mahaux (JLM): J.-P. Jeukenne, A. Lejeune, and C. Mahaux, Phys. Rev. C 15, 10 (1977): Phys. Rev. C 16, 80 (1977).

(3) the local density approximation.

The latter are discussed in the papers of Mellema et al and Petler et al (attached as Petler_etal.pdf and Mellema_etal.pdf).

Inputs are prompted for by the code when it is run, e.g.

```
<95 dill:~ > jlm
  ------------------------------------------------
  JLM local density approximation N+A potentials

  Output file trailer for potentials:
12C
  Output is to file: jlm.12C
  neutron (n) or proton (p) optical potential
p
  proton
  Target mass A and charge Z
12  6
   12.0000    6.0000
  Lab Energy (MeV)
40
   40.0000
 incident cm energy (MeV) =     36.9231
  Choose JLM potential parameter set
    1) High energy set (>10 MeV)
    2) Low energy set  (<10 MeV)
1
           1
  Version of local density approximation
    1) LDA (rx=rt)
    2) LDA (rx=rp)
    3) LDA (Mid-point) ********
3
           3
  Choose assumed target density
    1) Negele (Fermi) form
    2) Specify rms radius
    3) Oscillator form
    4) 3pF three parameter Fermi
    5) read Alex Brown HF densities
1
  >>>>            1
  ------------------------------------------------
  iden = 1: Negele:  rho0 =   0.145542380842818
  rad0 =    2.34703560387572       diff =   0.540000000000000
  rms mass radius =   2.70775482386094
  ------------------------------------------------
  real and imaginary potential scalings lambda
  systematics usually suggest  1.0  0.8
1  0.8
    1.0000    0.8000


%-----------------------------------------
Output files are:
jlmpot.xx     tabulation of the potential:
                radius    real U   imag U
                .......

jlm.xx        potential in the form of an input file
              for eikonal_s, to calculate the eikonal S(b).
```