

Enter reaction below in the yellow cells. This will automatically calculate the parameters you require in the appropriate columns. Simply cut and paste in Ptolemy. Other useful data given below.

| KINEMATICS | target | beam | ejectile | recoil | MeV/u beam | ex    |  | Qval gs | Qval ex | MeV beam | E c.m. | Qopt  | Sn 37S | S2n 37S | Sp 37S  |
|------------|--------|------|----------|--------|------------|-------|--|---------|---------|----------|--------|-------|--------|---------|---------|
|            | 36S    | 2H   | 1h       | 37S    | 4.000      | 0.000 |  | 2.0790  | 2.0790  | 8        | 7.5758 | 0.000 | 4.3036 | 14.1928 | 13.9344 |

|          |        |
|----------|--------|
| A=1 IONS | 1h     |
| A        | 37     |
| Z        | 16     |
| E (MEV)  | 10.079 |

Koning and Delaroche, 2009 | 0.001 < E < 200 | 24 < A < 209 | Iso. Dep.

[http://dx.doi.org/10.1016/S0375-9474\(02\)01321-0](http://dx.doi.org/10.1016/S0375-9474(02)01321-0)

v = 56.24 r0 = 1.182 a = 0.672

vi = 0.786 ri0 = 1.182 ai = 0.672

vsi = 8.709 rsi0 = 1.29 asi = 0.538

vso = 5.614 rso0 = 0.991 aso = 0.59

vsoi = -0.039 rsoi0 = 0.991 asoi = 0.59 rc0 = 1.292

Varner et al., (CH89), 1991 | 16 < E < 65 | 40 < A < 209

[http://dx.doi.org/10.1016/0370-1573\(91\)90039-0](http://dx.doi.org/10.1016/0370-1573(91)90039-0)

v = 53.603 r0 = 1.182 a = 0.69

vi = 0.959 ri0 = 1.204 ai = 0.69

vsi = 8.779 rsi0 = 1.204 asi = 0.69

vso = 5.9 rso0 = 0.98 aso = 0.63

vsoi = 0 rsoi0 = 0 asoi = 0 rc0 = 1.276

Menet et al., 1971 | 30 < E < 60 | A > 40

[http://dx.doi.org/10.1016/0092-640X\(76\)90007-3](http://dx.doi.org/10.1016/0092-640X(76)90007-3)

v = 53.171 r0 = 1.16 a = 0.75

vi = 2.107 ri0 = 1.37 ai = 0.795

vsi = 5.791 rsi0 = 1.37 asi = 0.795

vso = 6.04 rso0 = 1.064 aso = 0.78

vsoi = 0 rsoi0 = 0 asoi = 0 rc0 = 1.25

#### DEUTERONS

|         |       |
|---------|-------|
| A       | 36    |
| Z       | 16    |
| E (MEV) | 8.000 |

Zhang, Pang, and Lou, 2016 | 5.25 < E < 170 | 1p nuclei

<https://doi.org/10.1103/PhysRevC.94.014619>

To be added

To be added

To be added

To be added

To be added

Han, Shi, Shen, 2006 | E < 200 | 12 < A < 209

<http://dx.doi.org/10.1103/PhysRevC.74.044615>

v = 82.198 r0 = 1.174 a = 0.809

vi = 0 ri0 = 0 ai = 0

vsi = 15.511 rsi0 = 1.328 asi = 0.614

vso = 3.703 rso0 = 1.234 aso = 0.813

vsoi = -0.206 rsoi0 = 1.234 asoi = 0.813 rc0 = 1.698

An, Cai, 2006 | E < 183 | 12 < A < 238

<http://dx.doi.org/10.1103/PhysRevC.73.054605>

v = 92.976 r0 = 1.15 a = 0.761

vi = 1.602 ri0 = 1.335 ai = 0.525

vsi = 10.585 rsi0 = 1.38 asi = 0.736

vso = 3.557 rso0 = 0.972 aso = 1.011

vsoi = 0 rsoi0 = 0 asoi = 0 rc0 = 1.303

|          |       |
|----------|-------|
| A=3 IONS | 3h    |
| A        | 36    |
| Z        | 16    |
| E (MEV)  | 8.000 |

Xu, Guo, Han, Shen, 2011 | E < 250 MeV | 20 < A < 2

<http://dx.doi.org/10.1007/s11433-011-4488-5>

v = 133.977 r0 = 1.15 a = 0.788

vi = 0 ri0 = 1.618 ai = 0.665

vsi = 30.575 rsi0 = 1.207 asi = 0.736

vso = 3 rso0 = 1.269 aso = 0.9

vsoi = 0 rsoi0 = 0 asoi = 0 rc0 = 1.25

Liang, Li, Cai, 2009 | E < 270 MeV | All masses

<http://dx.doi.org/10.1088/0954-3899/36/8/085104>

v = 122.343 r0 = 1.178 a = 0.765

vi = -4.439 ri0 = 1.415 ai = 0.846

vsi = 22.208 rsi0 = 1.198 asi = 0.846

vso = 2.082 rso0 = 0.739 aso = 0.941

vsoi = -1.159 rsoi0 = 0.739 asoi = 0.941 rc0 = 1.289

Pang et al., 2009 | All E | All masses | Isospin dep.

<http://dx.doi.org/10.1103/PhysRevC.79.024615>

v = 118.966 r0 = 1.155 a = 0.82

vi = 1.697 ri0 = 1.271 ai = 0.84

vsi = 22.644 rsi0 = 1.271 asi = 0.84

vso = 1.54 rso0 = 0.997 aso = 0.13

vsoi = 0 rsoi0 = 0 asoi = 0 rc0 = 1.276