BeeDance

File   Help

Formula line: `^10B4C`

Formula display: $^{10}B_4C$

Density: `2.5`   g/cm³

Run button: Run

λ: `1.798`   Å

Results

Re(SLD)	1.81(39)e-6	1/Å²
Im(SLD)	1.2350(35)e-6	1/Å²
Re(V)	4.7(10)e1	neV
Im(V)	3.2158(92)e1	neV
λ_c	1.32(14)e3	Å
θ_c	2.13(23)e1	mrad/Å
q_c	9.5(10)e-3	1/Å
μ_a	4.436(12)e2	1/cm
μ_{inc}	5.1(52)e-1	1/cm
μ	4.441(17)e2	1/cm

Labels:
- Formula line
- Formula display
- Run button
- Scattering Length Density
- Potential
- Characteristic wavelength
- Critical angle
- Critical momentum transfer
- True absorption coefficient
- Incoherent scattering attenuation
- Attenuation coefficient
- Density
- Wavelength

Completed.

Use formula line to write formula.

Use **^** to designate the element isotope number. E.g. ^2H = D(deuterium)

The chemical composition can be specified using square brackets **[]** with weights of constituent substances: F1[w1]F2[w2]...Fn[wn] (F1, F2, ... , Fn are formulas). E.g. C2H5OH[31.6]H2O[60]

Enter density and neutron wavelength. Click on the Run button to get the results.

(No account is taken of the wavelength dependence of the scattering lengths of isotopes of **Gd**, **Cd**, **Sm**, **Eu** due to thermal resonances)

θ_c — Critical angle

Tip: To get quick help, hold the cursor over the value.

Errors are rounded to two digits.E.g.

1.32(14)e3	=	$(1.32\pm0.14)10^3$
5.1(52)e-2	=	$(5.1\pm5.2)10^{-2}$

Calculations are valid for thermal and colder neutrons in continuous medium approx.

Quantities in brackets are errors due to errors in the data tabulated (**V.F. Sears, Neutron News**, **Vol**. **3**, **No**. **3, 1992**. Table 1. Neutron scattering lengths and cross sections of the elements and their isotopes.)