ROFA SOFTWARE

XInfo

for Pocket PC

Overview

XInfo is a program that shows you all element data that are important for x-ray analysis for all elements of the Periodic Table of the Elements from Hydrogen to Uranium on your Pocket PC. These data include atomic number, atomic weight (relative atomic mass), energy and transition probability of emission lines, energy of absorption edges, fluorescence yields and cross sections (coherent, incoherent, photoelectric, total), linear absorption coefficient and half-value thickness against energy.

Installation

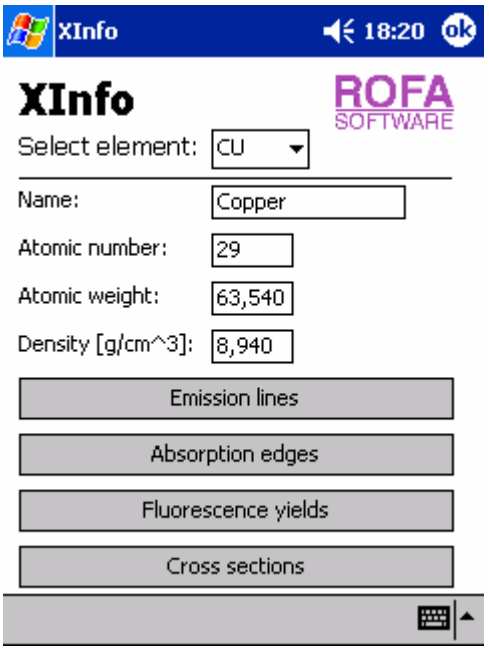
Connect your Pocket PC to your computer (ActiveSync will start automatically) start the program “setup.exe” and follow the instructions on the screen. After sucessful installation you will have new icon in your “Programs” folder on your Pocket PC:

XInfo

Start

After clicking on the XInfo icon in your Programs folder you will see a screen with a combo box at the top. Select the element , from Hydrogen (H) to Uranium (U), you are interested in. After a short time you will see

- Name of the element
- Atomic number
- Atomic weight (relative atomic mass)
- Density in g/cm³

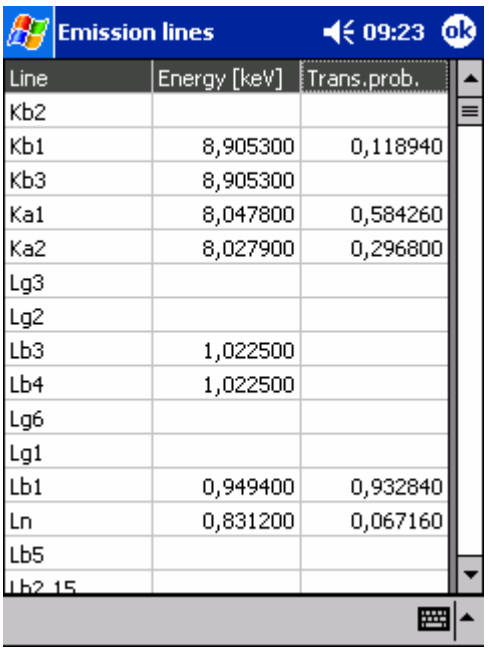


At the bottom are four buttons to display

- Emission lines
- Absorption edges
- Fluorescence yields
- Cross sections

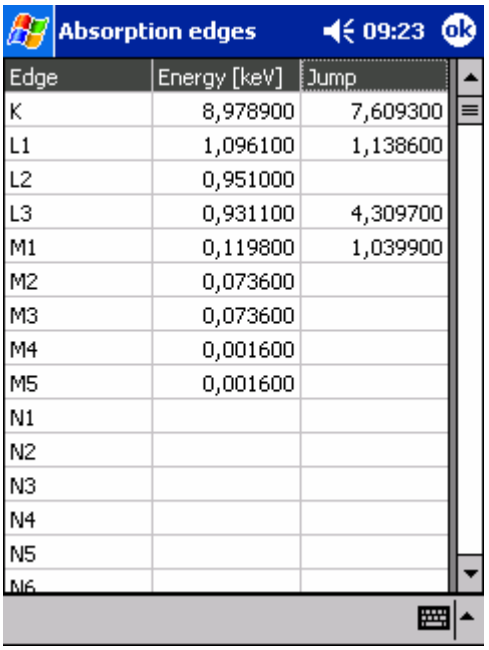
To exit the program press the “ok” button in the upper right corner.

Pressing the “Emission lines” button on the main screen shows a table with the energies and transition probabilities of the emission lines. Ka1 stands for $K\alpha_1$, Kb3 stands for $K\beta_3$, Lg4 stands for $L\gamma_4$, and so on. To return to the main screen press the “ok” button in the upper right corner.



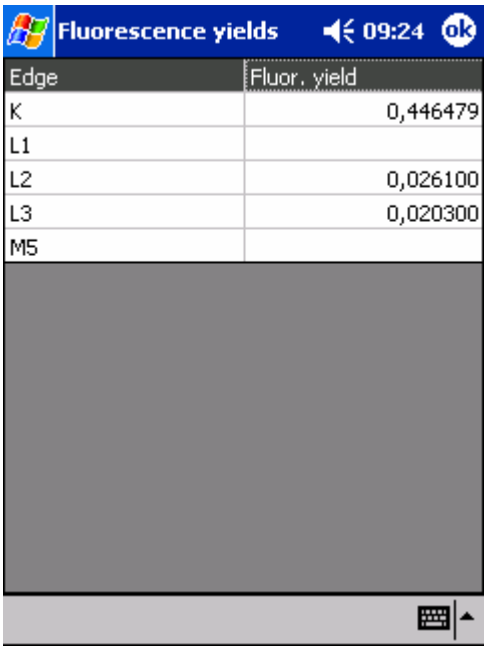
Line	Energy [keV]	Trans.prob.
Kb2		
Kb1	8,905300	0,118940
Kb3	8,905300	
Ka1	8,047800	0,584260
Ka2	8,027900	0,296800
Lg3		
Lg2		
Lb3	1,022500	
Lb4	1,022500	
Lg6		
Lg1		
Lb1	0,949400	0,932840
Ln	0,831200	0,067160
Lb5		
Lb2,15		

Pressing the “Absorption edges” button on the main screen shows a table with the energies and jumps (ratio of the photoelectric absorption coefficients of both “sides” of the edge) of the absorption edges. To return to the main screen press the “ok” button in the upper right corner.



Edge	Energy [keV]	Jump
K	8,978900	7,609300
L1	1,096100	1,138600
L2	0,951000	
L3	0,931100	4,309700
M1	0,119800	1,039900
M2	0,073600	
M3	0,073600	
M4	0,001600	
M5	0,001600	
N1		
N2		
N3		
N4		
N5		
N6		

Pressing the “Fluorescence yields” button on the main screen shows a table with the fluorescence yields of the absorption edges.
To return to the main screen press the “ok” button in the upper right corner.



Pressing the “Cross sections” button on the main screen shows a new screen with a input field at the top, in which you have to enter the energy in keV.
Calculated are the coherent, incoherent, photoelectric and total cross sections, all in cm²/g, the linear absorption coefficient in 1/cm and the half-value thickness in cm.
To return to the main screen press the “ok” button in the upper right corner.