VAMDC
Virtual Atomic and Molecular Data Centre

Russian Federal Nuclear Centre – All-Russian Institute of Technical Physics (RFNC-VNIITF)

WP7: JRA2 **Publishing Tools**

WP7 Tasks Steps for Period 1 involving RFNC-VNIITF activities:

Task 3: Preparing the prototype of the import tool (lead by UU)

Task 4: Prototype development and deployment of the VAMDC XSAMS interface for the Spectr-W^3 & VALD (?-should have been discussed in detail @ the meeting) databases (lead by RFNC-VNIITF)

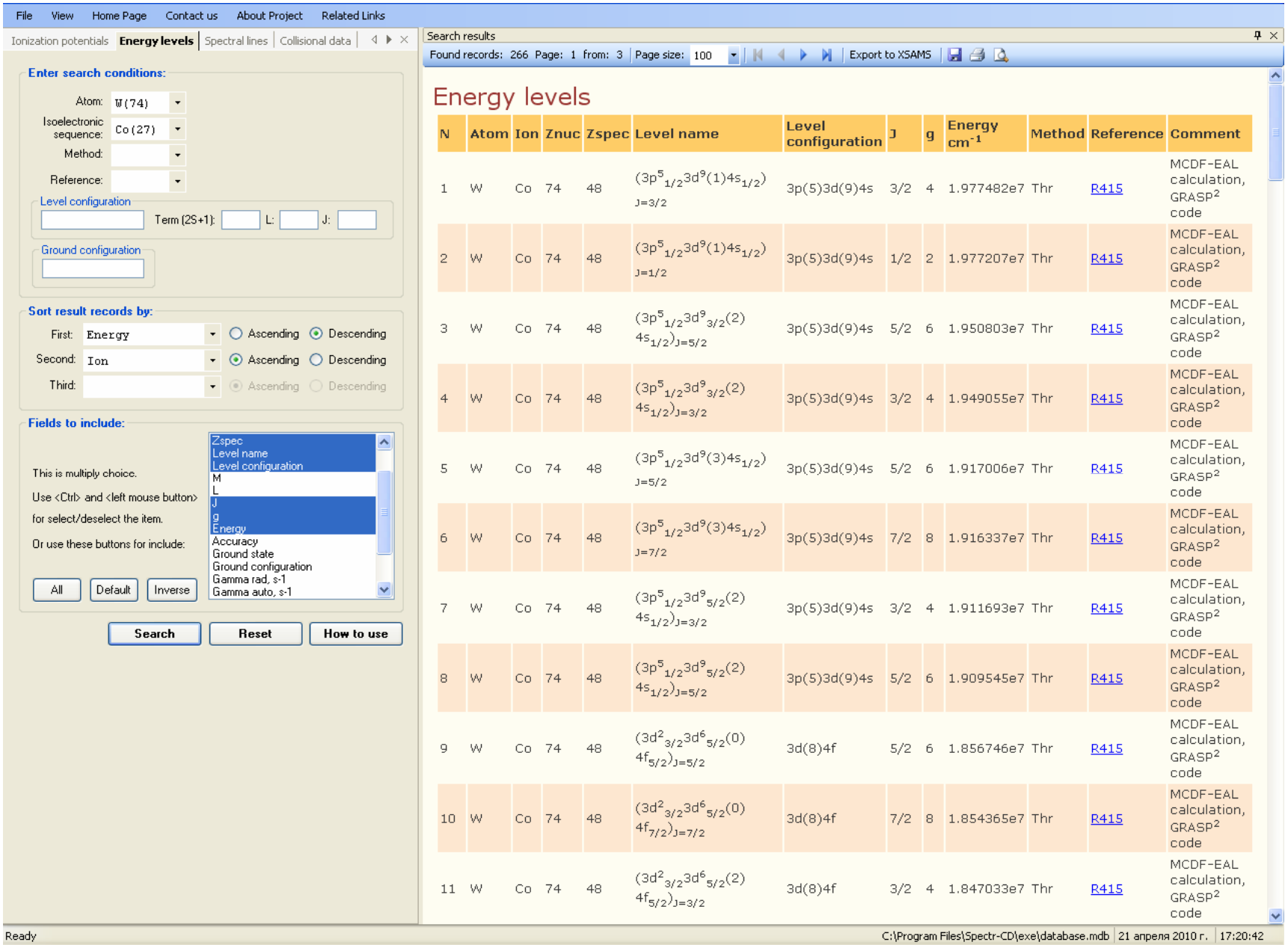
Local version of the Spectr-W^3 database

For off-line use on PCs under Windows. Previous interface was completely rewritten in C# ➔ flexibility & improved functionality.

Setup package will be made downloadable from the Spectr-W^3 homepage in autumn, 2010.

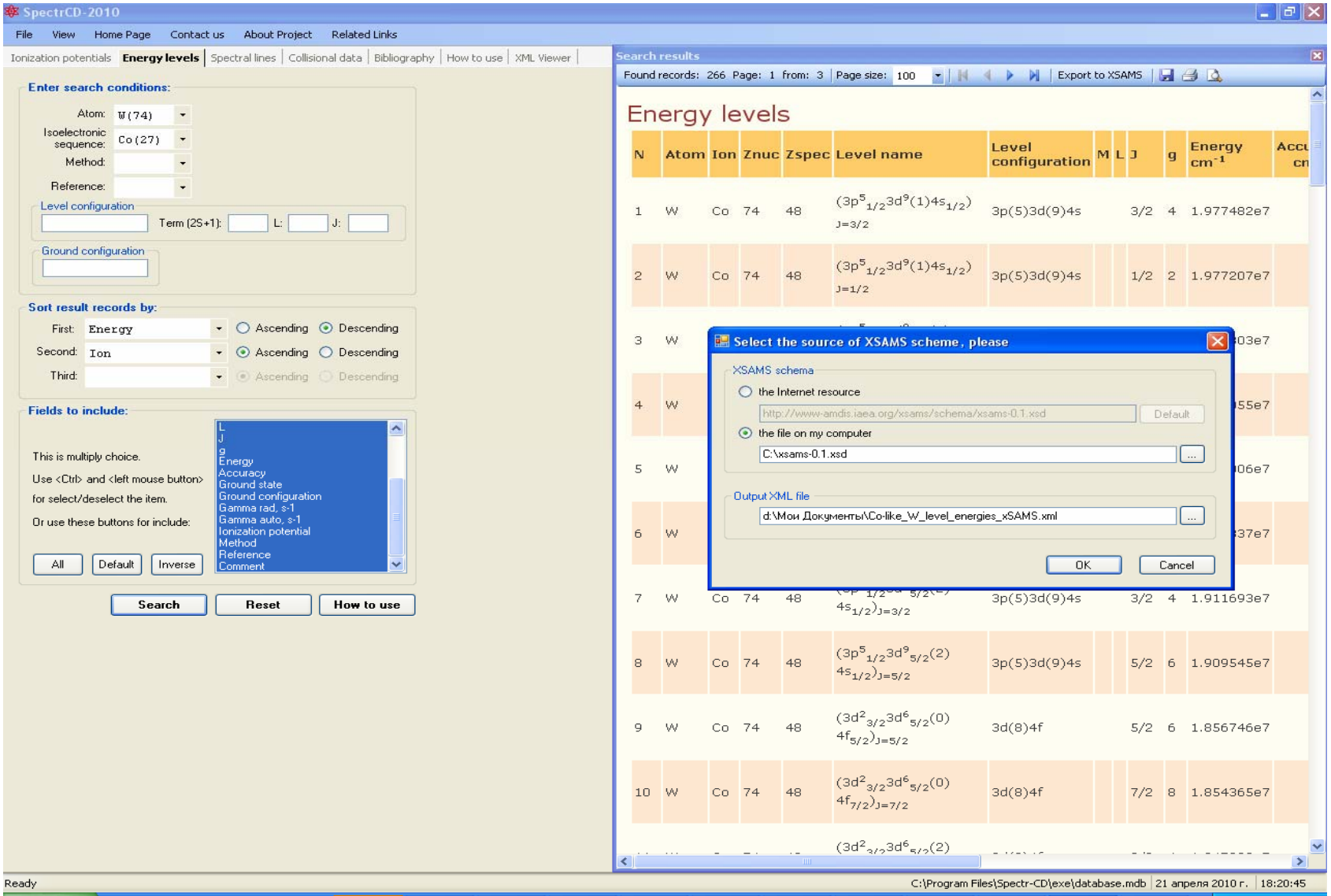
Also employed for the development & testing of export/ import options to XML & plain text formats.

Local version of the Spectr-W^3: selection of energy levels of Co-like W



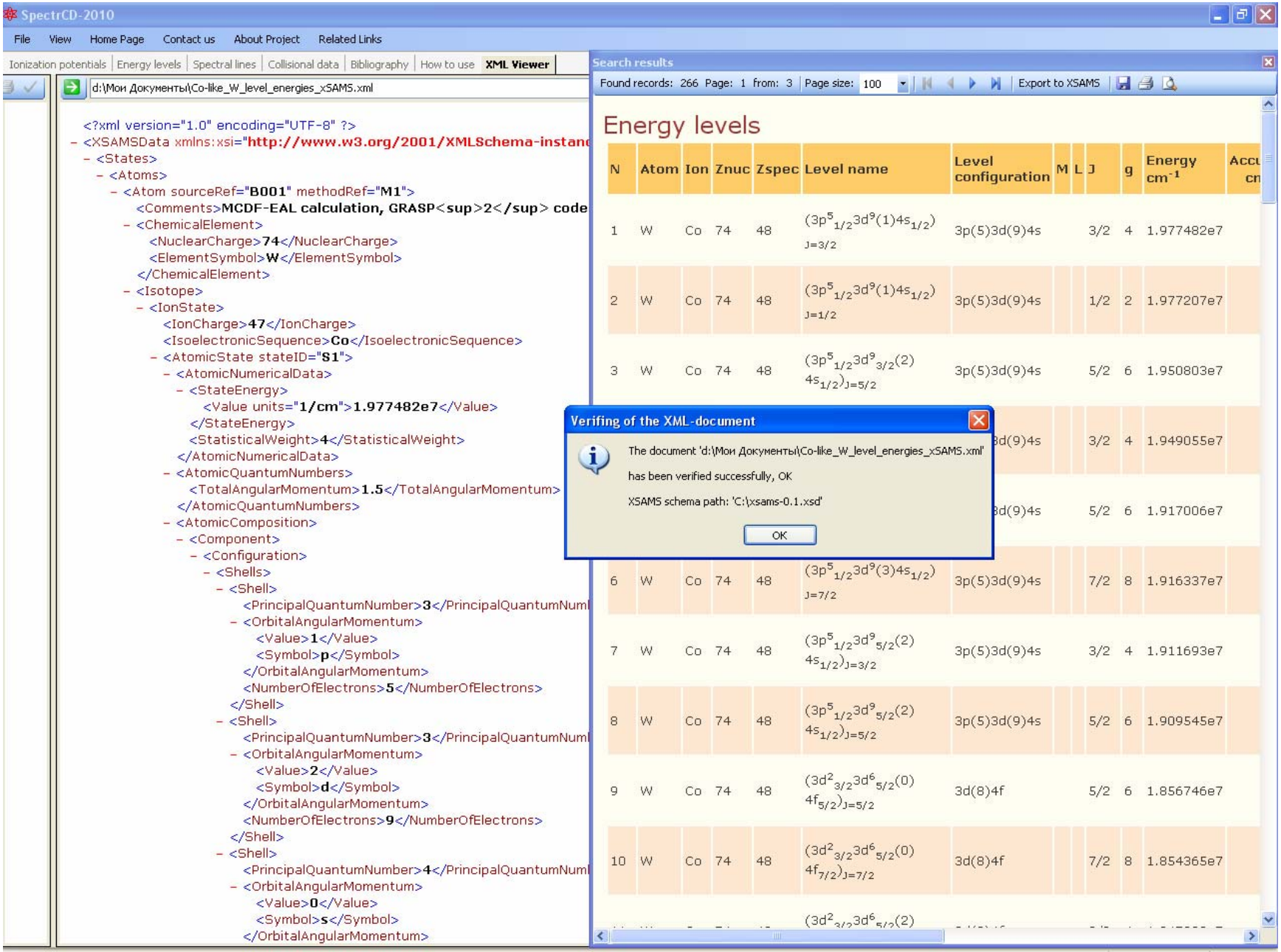
xSAMS export tool for Spectr-W^3.
Example 1: Export of selected data to XML under xSAMS

All fields should be highlighted in the ***Fields to include*** output selector & XML output filename specified with the xSAMS xsd file attached



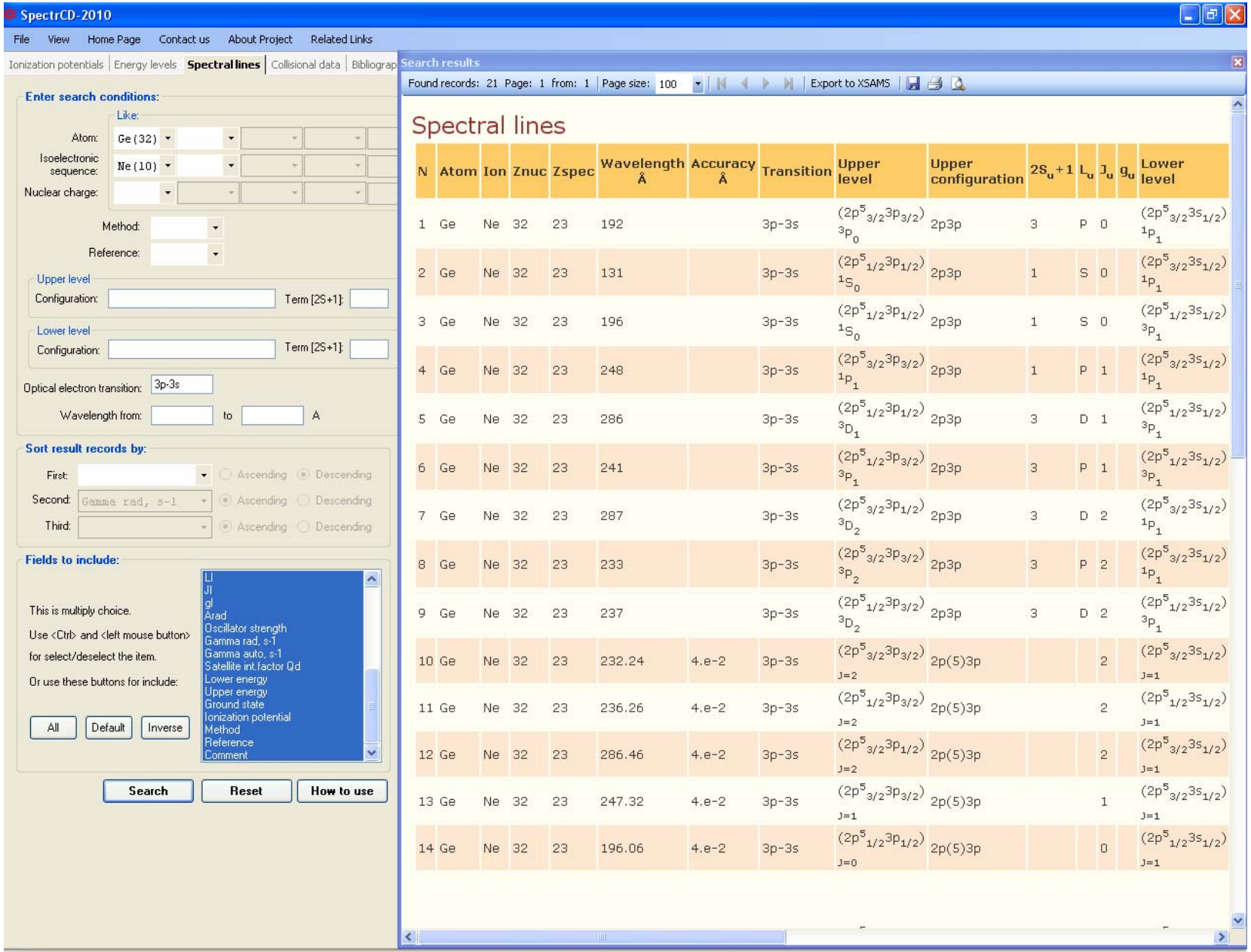
xSAMS export tool for Spectr-W^3.

Example 1: xSAMS-gauged XML file successfully generated



xSAMS export tool for Spectr-W^3.

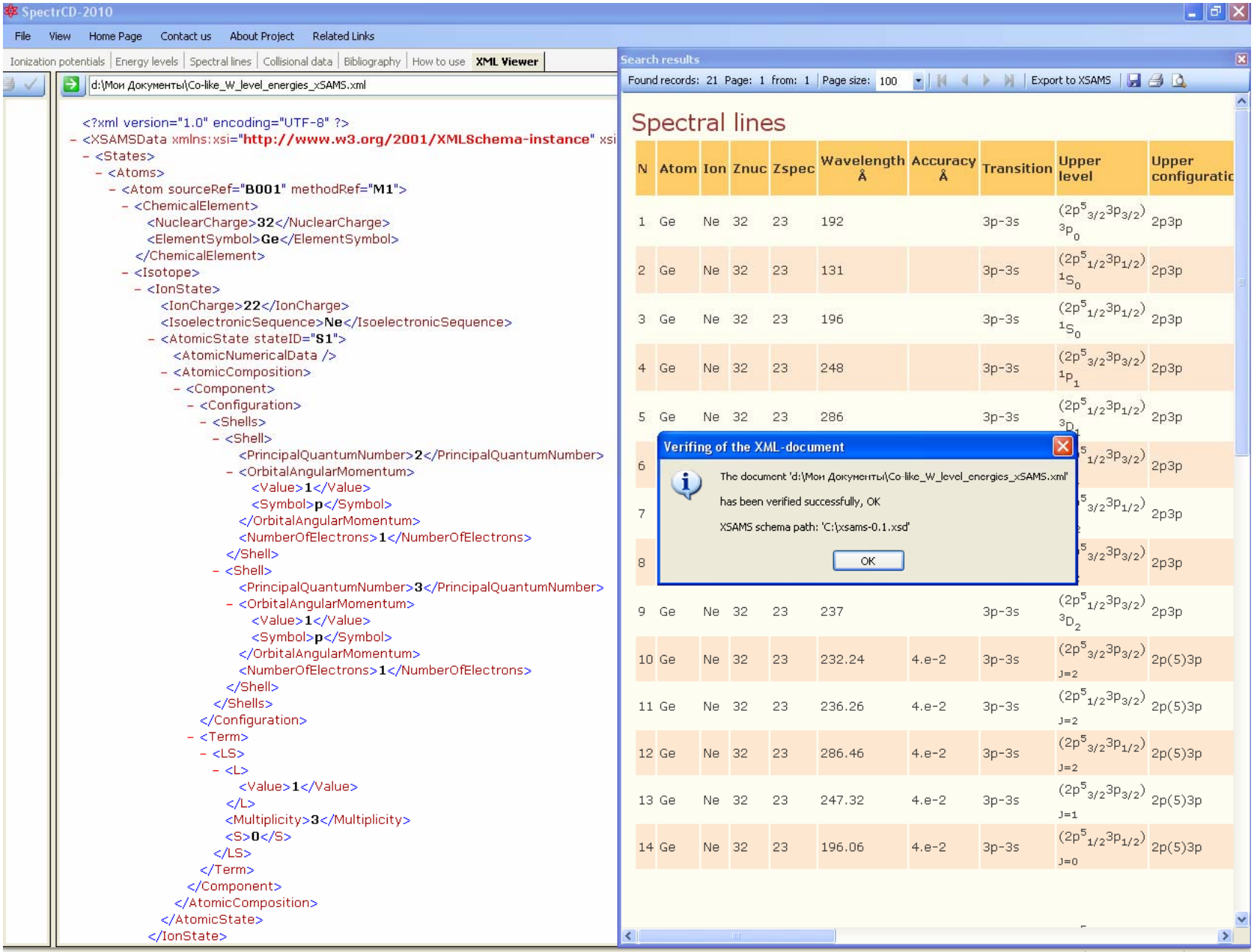
Example 2: xSAMS-export of selected data on 3p-3s transitions of Ne-like Ge



N	Atom	Ion	Znuc	Zspec	Wavelength Å	Accuracy Å	Transition	Upper level	Upper configuration	$2S_u+1$	L_u	J_u	g_u	Lower level
1	Ge	Ne	32	23	192		3p-3s	$(2p^5{}_{3/2}3p_{3/2})$ $^3P_0$	2p3p	3	P	0		$(2p^5{}_{3/2}3s_{1/2})$ $^1P_1$
2	Ge	Ne	32	23	131		3p-3s	$(2p^5{}_{1/2}3p_{1/2})$ $^1S_0$	2p3p	1	S	0		$(2p^5{}_{3/2}3s_{1/2})$ $^1P_1$
3	Ge	Ne	32	23	196		3p-3s	$(2p^5{}_{1/2}3p_{1/2})$ $^1S_0$	2p3p	1	S	0		$(2p^5{}_{1/2}3s_{1/2})$ $^3P_1$
4	Ge	Ne	32	23	248		3p-3s	$(2p^5{}_{3/2}3p_{3/2})$ $^1P_1$	2p3p	1	P	1		$(2p^5{}_{3/2}3s_{1/2})$ $^1P_1$
5	Ge	Ne	32	23	286		3p-3s	$(2p^5{}_{1/2}3p_{1/2})$ $^3D_1$	2p3p	3	D	1		$(2p^5{}_{1/2}3s_{1/2})$ $^3P_1$
6	Ge	Ne	32	23	241		3p-3s	$(2p^5{}_{1/2}3p_{3/2})$ $^3P_1$	2p3p	3	P	1		$(2p^5{}_{1/2}3s_{1/2})$ $^3P_1$
7	Ge	Ne	32	23	287		3p-3s	$(2p^5{}_{3/2}3p_{1/2})$ $^3D_2$	2p3p	3	D	2		$(2p^5{}_{3/2}3s_{1/2})$ $^1P_1$
8	Ge	Ne	32	23	233		3p-3s	$(2p^5{}_{3/2}3p_{3/2})$ $^3P_2$	2p3p	3	P	2		$(2p^5{}_{3/2}3s_{1/2})$ $^1P_1$
9	Ge	Ne	32	23	237		3p-3s	$(2p^5{}_{1/2}3p_{3/2})$ $^3D_2$	2p3p	3	D	2		$(2p^5{}_{1/2}3s_{1/2})$ $^3P_1$
10	Ge	Ne	32	23	232.24	4.e-2	3p-3s	$(2p^5{}_{3/2}3p_{3/2})$ J=2	2p(5)3p			2		$(2p^5{}_{3/2}3s_{1/2})$ J=1
11	Ge	Ne	32	23	236.26	4.e-2	3p-3s	$(2p^5{}_{1/2}3p_{3/2})$ J=2	2p(5)3p			2		$(2p^5{}_{1/2}3s_{1/2})$ J=1
12	Ge	Ne	32	23	286.46	4.e-2	3p-3s	$(2p^5{}_{3/2}3p_{1/2})$ J=2	2p(5)3p			2		$(2p^5{}_{3/2}3s_{1/2})$ J=1
13	Ge	Ne	32	23	247.32	4.e-2	3p-3s	$(2p^5{}_{3/2}3p_{3/2})$ J=1	2p(5)3p			1		$(2p^5{}_{3/2}3s_{1/2})$ J=1
14	Ge	Ne	32	23	196.06	4.e-2	3p-3s	$(2p^5{}_{1/2}3p_{1/2})$ J=0	2p(5)3p			0		$(2p^5{}_{1/2}3s_{1/2})$ J=1

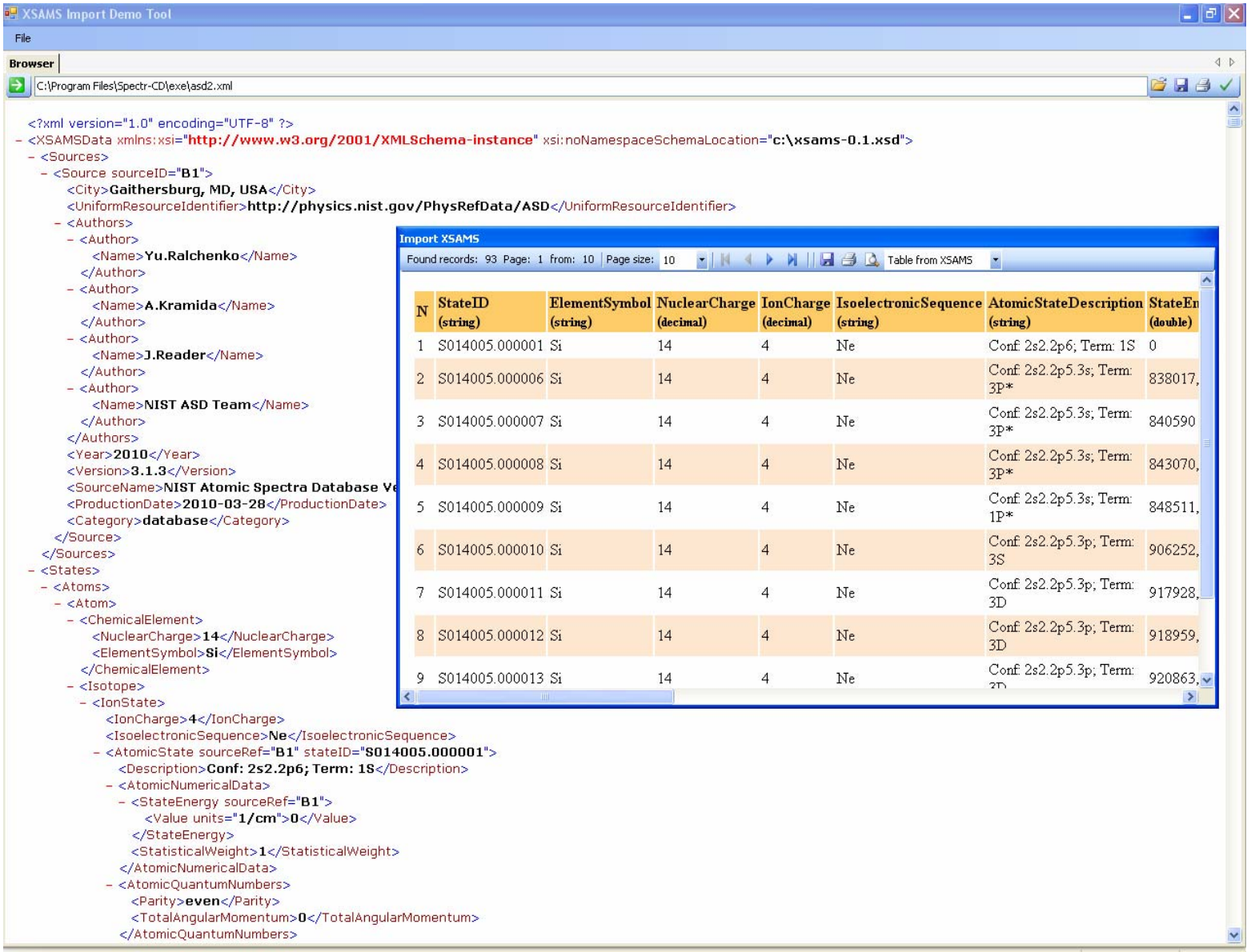
xSAMS export tool for Spectr-W^3.

Example 2: xSAMS-gauged XML file successfully generated

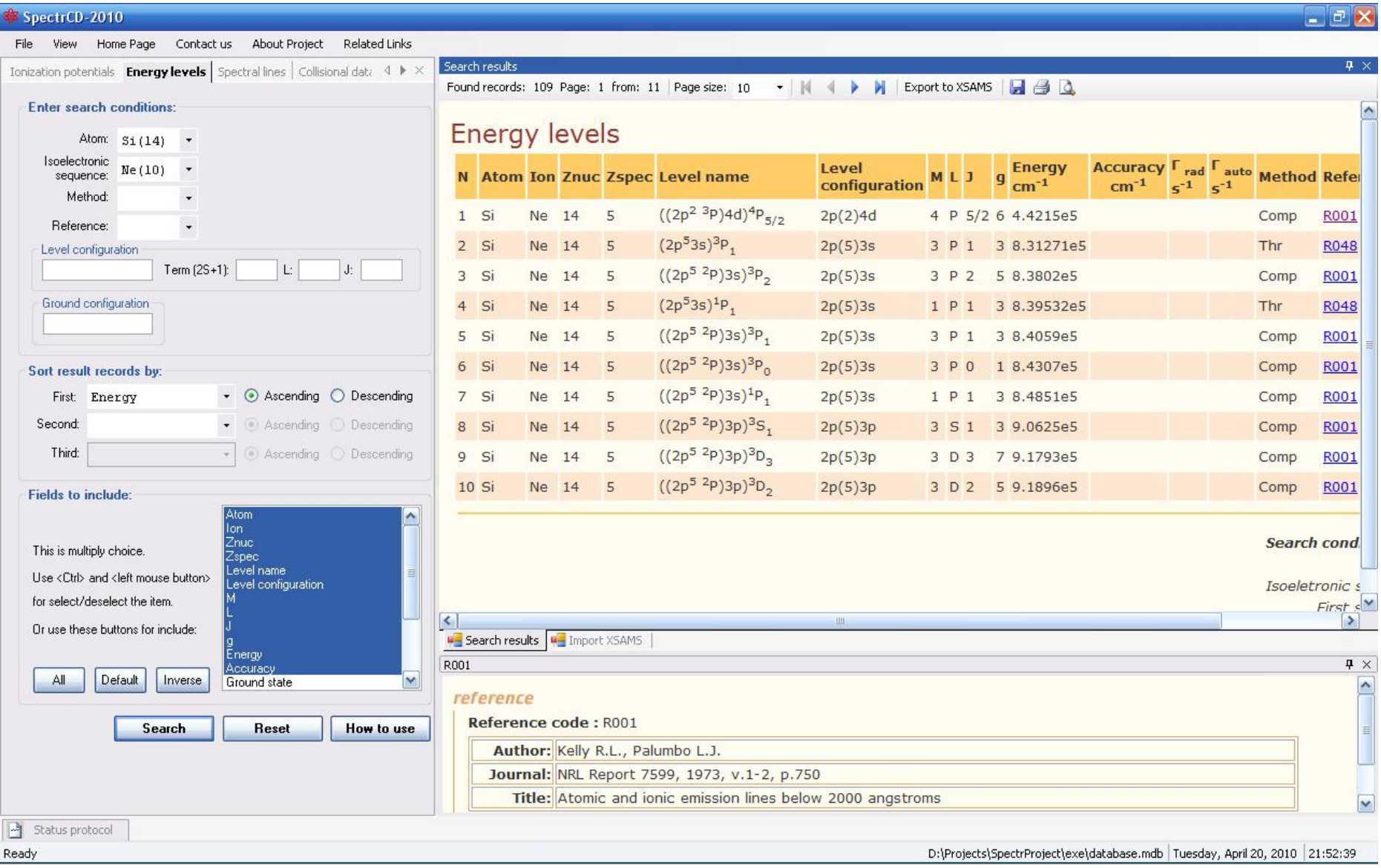


Preparing the prototype of the import tool for Spectr-W^3

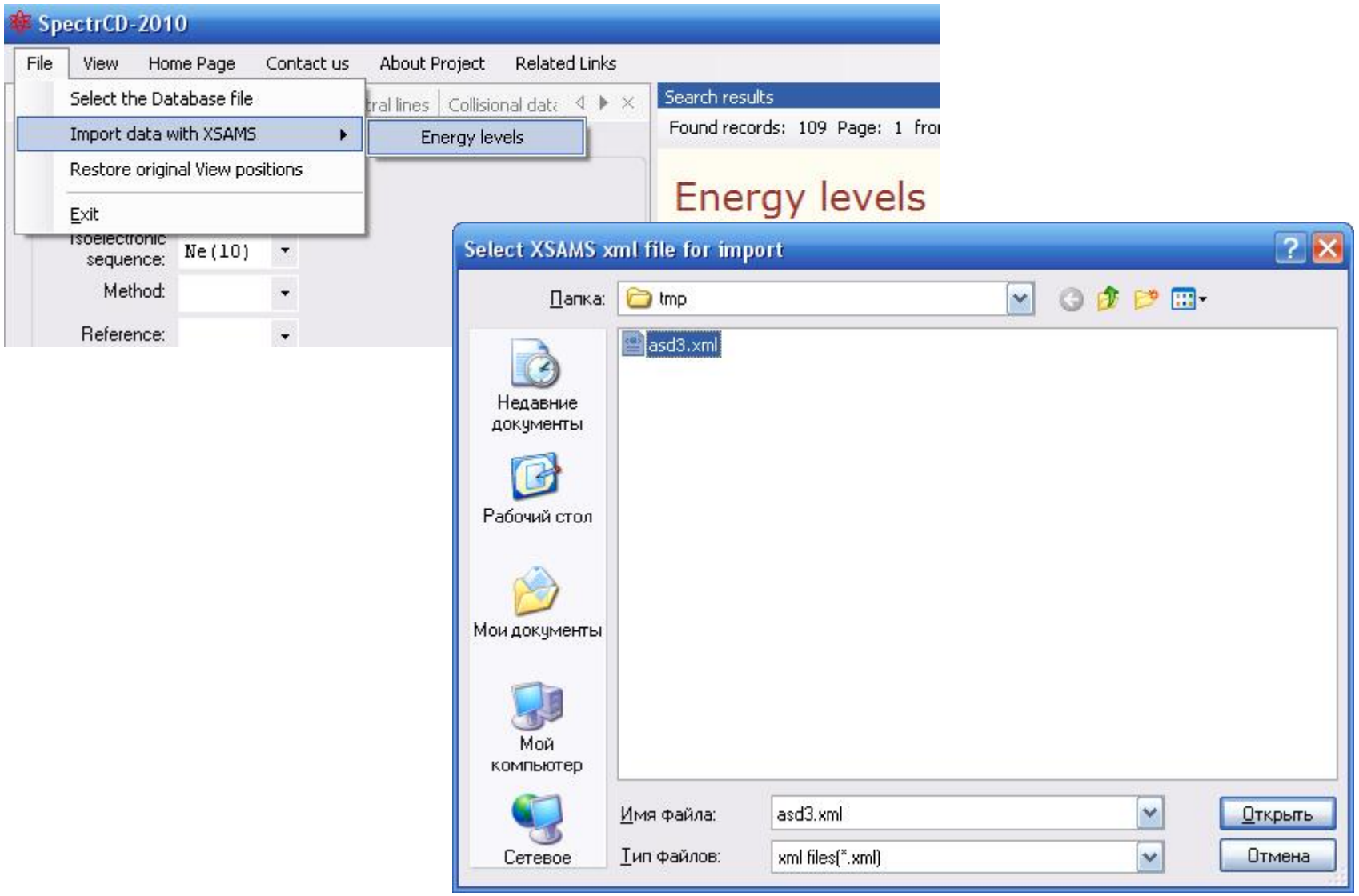
Content viewer of the input xSAMS-gauged xml file: energy levels of Ne-like Si



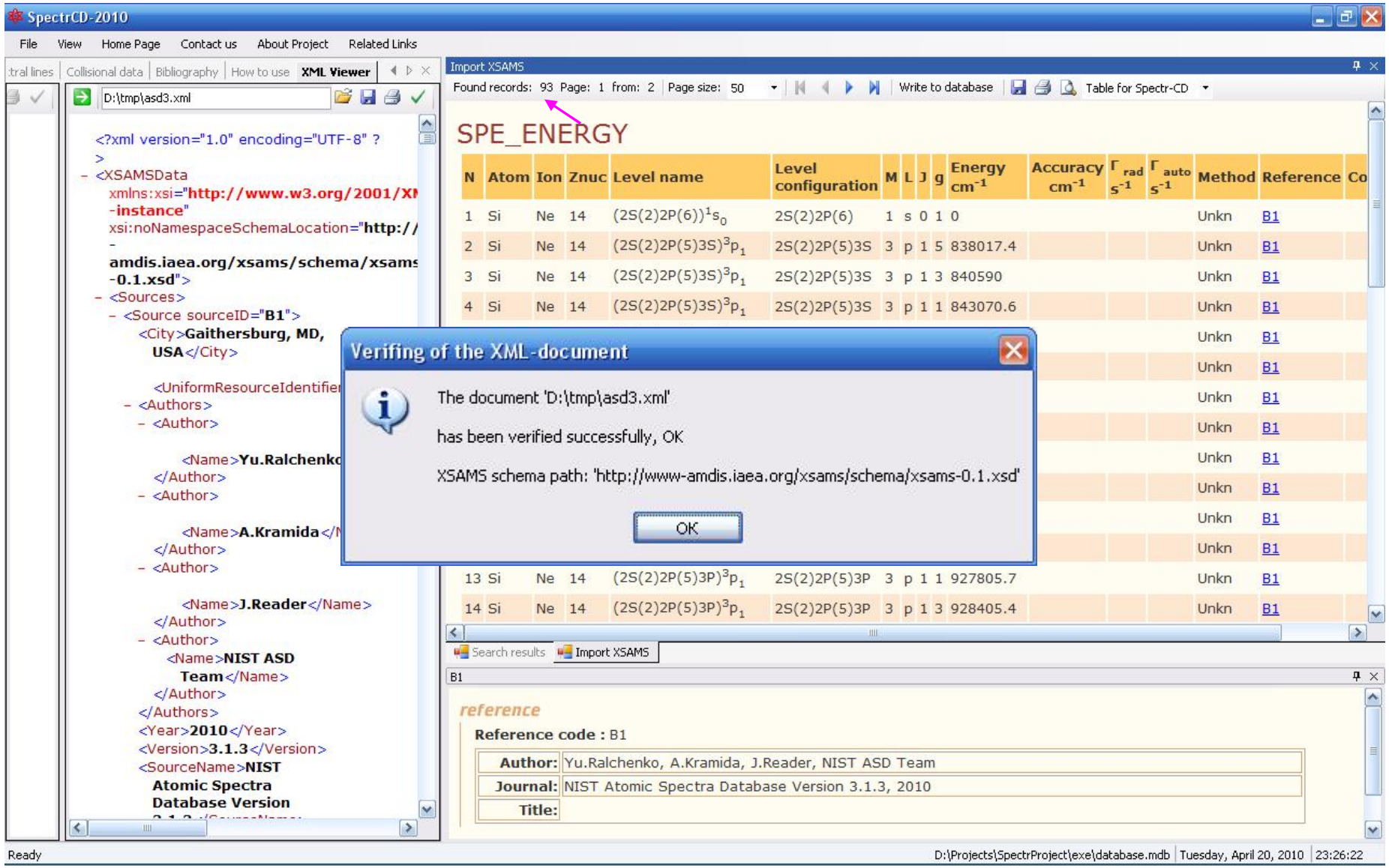
Initial selection of energy levels of Ne-like Si: 109 records in Spectr-W^3



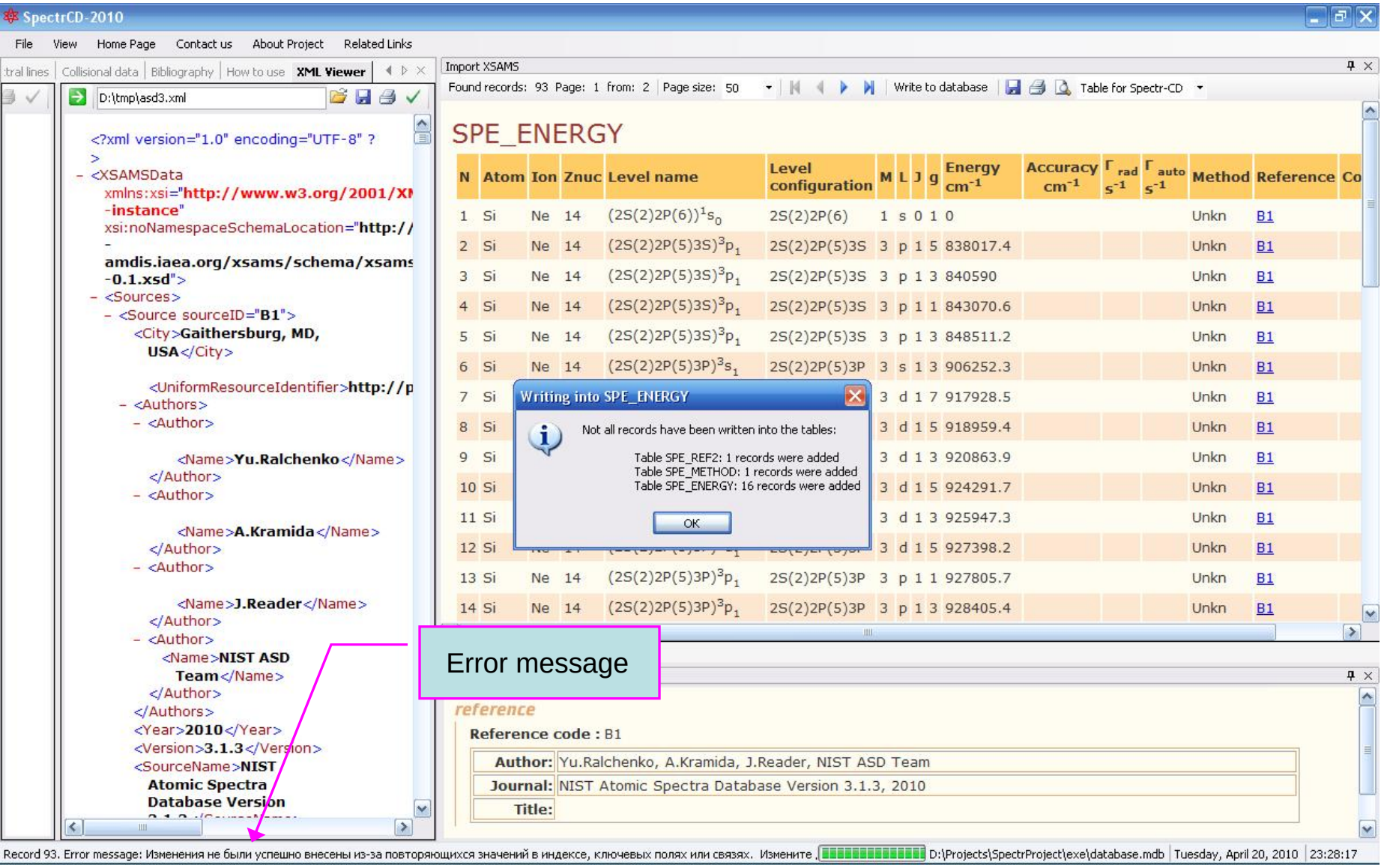
Selection of the input-data file for importing into Spectr-W^3



93 records are obtained from the selected input-data file



But only 16 new records are added to Spectr-W^3: duplications in the key fields of the input-data file found (to be analyzed). Also 1 bibliography reference is added



Follow-on selection of energy levels of Ne-like Si: 125 records are found in Spectr-W^3 for energy levels of Ne-like Si