

Table of X-ray Emission Lines

Energies (in keV) of the principal K, L and M x-ray emission lines are shown for elements ¹¹Na to ⁹²U. Lines shown in grey are not detectable by the XGT instruments.

Element		K _{α1}	K _{α2}	K _β	L _{α1}	L _{α2}	L _{β1}	L _{β2}	L _γ	M _α
¹¹ Na	sodium	1.04	1.04	1.07						
¹² Mg	magnesium	1.25	1.25	1.30						
¹³ Al	aluminium	1.48	1.49	1.56						
¹⁴ Si	silicon	1.74	1.74	1.84						
¹⁵ P	phosphorus	2.01	2.01	2.14						
¹⁶ S	sulfur	2.31	2.31	2.46						
¹⁷ Cl	chlorine	2.62	2.62	2.81						
¹⁸ Ar	argon	2.96	2.96	3.19						
¹⁹ K	potassium	3.31	3.31	3.59						
²⁰ Ca	calcium	3.69	3.69	4.01	0.34	0.34	0.35			
²¹ Sc	scandium	4.09	4.09	4.46	0.40	0.40	0.40			
²² Ti	titanium	4.51	4.50	4.93	0.45	0.45	0.46			
²³ V	vanadium	4.95	4.94	5.43	0.51	0.51	0.52			
²⁴ Cr	chromium	5.41	5.41	5.95	0.57	0.57	0.58			
²⁵ Mn	manganese	5.90	5.89	6.49	0.64	0.64	0.65			
²⁶ Fe	iron	6.40	6.39	7.06	0.71	0.71	0.72			
²⁶ Co	cobalt	6.93	6.92	7.65	0.78	0.78	0.79			
²⁸ Ni	nickel	7.48	7.46	8.26	0.85	0.85	0.87			
²⁹ Cu	copper	8.05	8.03	8.91	0.93	0.93	0.95			
³⁰ Zn	zinc	8.64	8.62	9.57	1.01	1.01	1.03			
³¹ Ga	gallium	9.25	9.22	10.26	1.10	1.10	1.12			
³² Ge	germanium	9.89	9.86	10.98	1.19	1.19	1.22			
³³ As	arsenic	10.54	10.51	11.73	1.28	1.28	1.32			
³⁴ Se	selenium	11.22	11.18	12.50	1.38	1.38	1.42			
³⁵ Br	bromine	11.92	11.88	13.29	1.48	1.48	1.53			
³⁶ Kr	krypton	12.65	12.60	14.11	1.59	1.59	1.64			

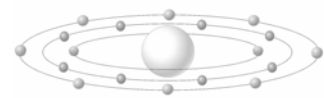


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Element		$K_{\alpha 1}$	$K_{\alpha 2}$	K_{β}	$L_{\alpha 1}$	$L_{\alpha 2}$	$L_{\beta 1}$	$L_{\beta 2}$	L_{γ}	M_{α}
³⁷ Rb	rubidium	13.40	13.34	14.96	1.69	1.69	1.75			
³⁸ Sr	strontium	14.17	14.10	15.84	1.81	1.80	1.87			
³⁹ Y	yttrium	14.96	14.88	16.74	1.92	1.92	2.00			
⁴⁰ Zr	zirconium	15.78	15.69	17.67	2.04	2.04	2.12	2.22	2.30	
⁴¹ Nb	niobium	16.62	16.52	18.62	2.17	2.16	2.26	2.37	2.46	
⁴² Mo	molybdenum	17.48	17.37	19.61	2.29	2.29	2.39	2.52	2.62	
⁴³ Tc	technetium	18.37	18.25	20.62	2.42	2.42	2.54	2.67	2.79	
⁴⁴ Ru	ruthenium	19.28	19.15	21.66	2.56	2.55	2.68	2.84	2.96	
⁴⁵ Rh	rhodium	20.22	20.07	22.72	2.70	2.69	2.83	3.00	3.14	
⁴⁶ Pd	palladium	21.18	21.02	23.82	2.84	2.83	2.99	3.17	3.33	
⁴⁷ Ag	silver	22.16	21.99	24.94	2.98	2.98	3.15	3.35	3.52	
⁴⁸ Cd	cadmium	23.17	22.98	26.10	3.13	3.13	3.32	3.53	3.72	
⁴⁹ In	indium	24.21	24.00	27.28	3.29	3.28	3.49	3.71	3.92	
⁵⁰ Sn	tin	25.27	25.04	28.49	3.44	3.44	3.66	3.90	4.13	
⁵¹ Sb	antimony	26.36	26.11	29.73	3.60	3.60	3.84	4.10	4.35	
⁵² Te	tellurium	27.47	27.20	31.00	3.77	3.76	4.03	4.30	4.57	
⁵³ I	iodine	28.61	28.32	32.29	3.94	3.93	4.22	4.51	4.80	
⁵⁴ Xe	xenon	29.78	29.46	33.62	4.11					
⁵⁵ Cs	caesium	30.97	30.63	34.99	4.29	4.27	4.62	4.94	5.28	
⁵⁶ Ba	barium	32.19	31.82	36.38	4.47	4.45	4.83	5.16	5.53	
⁵⁷ La	lanthanum	33.44	33.03	37.80	4.65	4.63	5.04	5.38	5.79	0.83
⁵⁸ Ce	cerium	34.72	34.28	39.28	4.84	4.82	5.26	5.61	6.05	0.83
⁵⁹ Pr	praseodymium	36.03	35.55	40.75	5.03	5.01	5.49	5.85	6.32	0.93
⁶⁰ Nd	neodymium	37.36	36.85	42.27	5.23	5.21	5.72	6.09	6.60	0.98
⁶¹ Pm	promethium	38.72	38.17	43.83	5.43	5.41	5.96	6.34	6.89	
⁶² Sm	samarium	40.12	39.52	45.41	5.64	5.61	6.21	6.59	7.18	1.08
⁶³ Eu	europium	41.54	40.90	47.04	5.85	5.82	6.46	6.84	7.48	1.13
⁶⁴ Gd	gadolinium	43.00	42.31	48.70	6.06	6.03	6.71	7.10	7.79	1.19
⁶⁵ Tb	terbium	44.48	43.74	50.38	6.27	6.24	6.98	7.37	8.10	1.24
⁶⁶ Dy	dysprosium	46.00	45.21	52.11	6.50	6.46	7.25	7.64	8.42	1.29

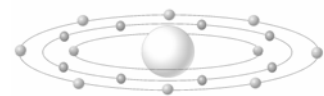


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Element		$K_{\alpha 1}$	$K_{\alpha 2}$	K_{β}	$L_{\alpha 1}$	$L_{\alpha 2}$	$L_{\beta 1}$	$L_{\beta 2}$	L_{γ}	M_{α}
⁶⁷ Ho	holmium	47.55	46.70	53.88	6.72	6.68	7.53	7.91	8.75	1.35
⁶⁸ Er	erbium	49.13	48.22	55.68	6.95	6.91	7.81	8.19	9.09	1.41
⁶⁹ Tm	thulium	50.74	49.77	57.52	7.18	7.13	8.10	8.47	9.43	1.46
⁷⁰ Yb	ytterbium	52.39	51.35	59.37	7.42	7.37	8.40	8.76	9.78	1.52
⁷¹ Lu	lutetium	54.07	52.97	61.28	7.66	7.60	8.71	9.05	10.14	1.58
⁷² Hf	hafnium	55.79	54.61	63.23	7.90	7.84	9.02	9.35	10.52	1.64
⁷³ Ta	tantalum	57.53	56.28	65.33	8.15	8.09	9.34	9.65	10.90	1.71
⁷⁴ W	tungsten	59.32	57.98	67.24	8.40	8.34	9.67	9.96	11.29	1.78
⁷⁵ Re	rhenium	61.14	59.72	69.31	8.65	8.59	10.01	10.28	11.69	1.84
⁷⁶ Os	osmium	63.00	61.49	71.41	8.91	8.84	10.36	10.60	12.10	1.91
⁷⁷ Ir	iridium	64.90	63.29	73.56	9.18	9.10	10.71	10.92	12.51	1.98
⁷⁸ Pt	platinum	66.83	65.11	75.75	9.44	9.36	11.07	11.25	12.94	2.05
⁷⁹ Au	gold	68.80	66.99	77.98	9.71	9.63	11.44	11.58	13.38	2.12
⁸⁰ Hg	mercury	70.82	68.90	80.25	9.99	9.90	11.82	11.92	13.83	2.20
⁸¹ Tl	thallium	72.87	70.83	82.58	10.27	10.17	12.21	12.27	14.29	2.27
⁸² Pb	lead	74.97	72.80	84.94	10.55	10.45	12.61	12.62	14.76	2.35
⁸³ Bi	bismuth	77.11	74.81	87.34	10.84	10.73	13.02	12.98	15.25	2.42
⁸⁴ Po	polonium	79.29	76.86	89.80	11.13	11.02	13.45	13.34	15.74	
⁸⁵ At	astatine	81.52	78.95	92.30	11.43	11.30	13.88		16.25	
⁸⁶ Rn	radon	83.78	81.07	94.87	11.73	11.60	14.32		16.77	
⁸⁷ Fr	francium	86.10	83.23	97.47	12.03	11.90	14.77	14.45	17.30	
⁸⁸ Ra	radium	88.47	85.43	100.13	12.34	12.20	15.24	14.84	17.85	
⁸⁹ Ac	actinium	90.88	87.67	102.85	12.65	12.50	15.71		18.41	
⁹⁰ Th	thorium	93.35	89.95	105.61	12.97	12.81	16.20	15.62	18.98	3.00
⁹¹ Pa	protactinium	95.87	92.29	108.43	13.29	13.12	16.70	16.02	19.57	3.08
⁹² U	uranium	98.44	94.67	111.30	13.61	13.44	17.22	16.43	20.17	3.17