

## X-ray properties

Element		Edge Energies (keV)		Edge jumps		Fluorescence yield	
Symbol	Cu	K	8.97900009	K	7.95528412	K	0.439999998
Z	29	L1	1.10000002	L1	1.15726078	L1	0.00159999996
Atomic Weight	63.5400009	L2	0.952000022	L2	1.40999997	L2	0.119999997
Density	8.93999958	L3	0.931999981	L3	2.87400007	L3	8.04699993
		M	0.119999997				
		K-alpha	8.04699993				
		K-beta	8.90400028				
		L-alpha	0.				
		L-beta	0.				

## X-ray properties

Element		Edge Energies (keV)		Edge jumps		Fluorescence yield	
Symbol	Fe	K	7.11199999	K	8.0714798	K	0.340000004
Z	26	L1	0.842000008	L1	1.1567719	L1	0.00100000005
Atomic Weight	55.8499985	L2	0.719900012	L2	2.10063171	L2	0.0939999968
Density	7.86000013	L3	0.706799984	L3	0.	L3	6.40299988
		M	0.0939999968				
		K-alpha	6.40299988				
		K-beta	7.05700016				
		L-alpha	0.				
		L-beta	0.				

## X-ray properties

Element		Edge Energies (keV)		Edge jumps		Fluorescence yield	
Symbol	Mo	K	19.9990005	K	6.96617126	K	0.764999986
Z	42	L1	2.86599994	L1	1.15898371	L1	0.00999999978
Atomic Weight	95.9499969	L2	2.625	L2	1.40999997	L2	0.504999995
Density	10.2200003	L3	2.51999998	L3	3.67499995	L3	17.4780006
		M	0.504999995				
		K-alpha	17.4780006				
		K-beta	19.6070004				
		L-alpha	2.29299998				
		L-beta	2.39499998				

Table 1: Data of the characteristic X-ray line  $K_\alpha$ 

	$n = 1$		$n = 2$		$n = 3$		$\bar{\lambda}(K_\alpha)/\text{pm}$	$\sqrt{f(K_\alpha)}/10^4 \text{s}^{-1/2}$
	$\vartheta(K_\alpha)/^\circ$	$\lambda(K_\alpha)/\text{pm}$	$\vartheta(K_\alpha)/^\circ$	$\lambda(K_\alpha)/\text{pm}$	$\vartheta(K_\alpha)/^\circ$	$\lambda(K_\alpha)/\text{pm}$		
Fe ( $Z = 26$ )	28.9	194.7	74.3	193.9	—	—	194.3	12.42
Cu ( $Z = 29$ )	22.6	154.1	50.2	154.9	—	—	154.5	13.93
Mo ( $Z = 42$ )	10.2	70.4	20.8	71.2	32.1	71.3	71.0	20.55

Table 2: Data for the characteristic X-ray line  $K_\beta$ 

	$n = 1$		$n = 2$		$n = 3$		$\bar{\lambda}(K_\beta)/\text{pm}$	$\sqrt{f(K_\beta)}/10^4 \text{s}^{-1/2}$
	$\vartheta(K_\beta)/^\circ$	$\lambda(K_\beta)/\text{pm}$	$\vartheta(K_\beta)/^\circ$	$\lambda(K_\beta)/\text{pm}$	$\vartheta(K_\beta)/^\circ$	$\lambda(K_\beta)/\text{pm}$		
Fe ( $Z = 26$ )	25.8	175.3	60.9	176.0	—	—	175.7	13.06
Cu ( $Z = 29$ )	20.4	140.4	43.9	139.6	—	—	140.0	14.63
Mo ( $Z = 42$ )	9.2	64.4	18.5	63.9	28.2	63.4	63.9	21.66

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Element		Edge Energies (keV)		Edge jumps		Fluorescence yield	
Symbol	Ni	K	8.33300018	K	7.85232878	K	0.405999988
Z	28	L1	1.01199996	L1	1.15715587	L1	0.00139999995
Atomic Weight	58.6899986	L2	0.871999979	L2	1.40999997	L2	0.112999998
Density	8.89999962	L3	0.855000019	L3	2.77200007	L3	7.47700024
		M	0.112999998				
		K-alpha	7.47700024				
		K-beta	8.26399994				
		L-alpha	0.				
		L-beta	0.				

## X-ray properties

Element		Edge Energies (keV)		Edge jumps		Fluorescence yield	
Symbol	Zr	K	17.9979992	K	6.749125	K	0.730000019
Z	40	L1	2.53200006	L1	1.15883005	L1	0.00680000009
Atomic Weight	91.2200012	L2	2.30699992	L2	1.40999997	L2	0.430999994
Density	6.53000021	L3	2.22300005	L3	3.97600007	L3	15.7740002
		M	0.430999994				
		K-alpha	15.7740002				
		K-beta	17.6660004				
		L-alpha	2.04200006				
		L-beta	2.12400007				