

# THE JOURNAL

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(Founded by Ira Remsen)

### INTERNATIONAL COMMITTEE ON ATOMIC WEIGHTS.

On account of the difficulties of correspondence between its members, due to the war, the International Committee on Atomic Weights has decided to make no full report for 1918. Although a good number of new determinations have been published during the past year, none of them seems to demand any immediate change in the table for 1917. That table, therefore, may stand as official during the year 1918.

F. W. CLARKE, *Chairman.*

#### INTERNATIONAL ATOMIC WEIGHTS, 1917.

	Symbol.	Atomic weight.		Symbol.	Atomic weight.
Aluminum.....	Al	27.1	Cobalt.....	Co	58.97
Antimony.....	Sb	120.2	Columbium.....	Cb	93.1
Argon.....	A	39.88	Copper.....	Cu	63.57
Arsenic.....	As	74.96	Dysprosium.....	Dy	162.5
Barium.....	Ba	137.37	Erbium.....	Er	167.7
Bismuth.....	Bi	208.0	Europium.....	Eu	152.0
Boron.....	B	11.0	Fluorine.....	F	19.0
Bromine.....	Br	79.92	Gadolinium.....	Gd	157.3
Cadmium.....	Cd	112.40	Gallium.....	Ga	69.9
Caesium.....	Cs	132.81	Germanium.....	Ge	72.5
Calcium.....	Ca	40.07	Glucinum.....	Gl	9.1
Carbon.....	C	12.005	Gold.....	Au	197.2
Cerium.....	Ce	140.25	Helium.....	He	4.00
Chlorine.....	Cl	35.46	Holmium.....	Ho	163.5
Chromium.....	Cr	52.0	Hydrogen.....	H	1.008

INTERNATIONAL ATOMIC WEIGHTS, 1917 (*continued*).

	Symbol.	Atomic weight.		Symbol.	Atomic weight.
Indium.....	In	114.8	Rubidium.....	Rb	85.45
Iodine.....	I	126.92	Ruthenium.....	Ru	101.7
Iridium.....	Ir	193.1	Samarium.....	Sa	150.4
Iron.....	Fe	55.84	Scandium.....	Sc	44.1
Krypton.....	Kr	82.92	Selenium.....	Se	79.2
Lanthanum.....	La	139.0	Silicon.....	Si	28.3
Lead.....	Pb	207.20	Silver.....	Ag	107.88
Lithium.....	Li	6.94	Sodium.....	Na	23.00
Lutecium.....	Lu	175.0	Strontium.....	Sr	87.63
Magnesium.....	Mg	24.32	Sulfur.....	S	32.06
Manganese.....	Mn	54.93	Tantalum.....	Ta	181.5
Mercury.....	Hg	200.6	Tellurium.....	Te	127.5
Molybdenum.....	Mo	96.0	Terbium.....	Tb	159.2
Neodymium.....	Nd	144.3	Thallium.....	Tl	204.0
Neon.....	Ne	20.2	Thorium.....	Th	232.4
Nickel.....	Ni	58.68	Thulium.....	Tm	168.5
Niton (radium emanation)Nt		222.4	Tin.....	Sn	118.7
Nitrogen.....	N	14.01	Titanium.....	Ti	48.1
Osmium.....	Os	190.9	Tungsten.....	W	184.0
Oxygen.....	O	16.00	Uranium.....	U	238.2
Palladium.....	Pd	106.7	Vanadium.....	V	51.0
Phosphorus.....	P	31.04	Xenon.....	Xe	130.2
Platinum.....	Pt	195.2	Ytterbium (Neoytterbium)Yb		173.5
Potassium.....	K	39.10	Yttrium.....	Yt	88.7
Praseodymium.....	Pr	140.9	Zinc.....	Zn	65.37
Radium.....	Ra	226.0	Zirconium.....	Zr	90.6
Rhodium.....	Rh	102.9			

[CONTRIBUTIONS FROM THE CHEMICAL LABORATORIES OF THROOP COLLEGE OF TECHNOLOGY, No. 3.]

## THE CRYSTAL STRUCTURE OF CHALCOPYRITE DETERMINED BY X-RAYS.

BY CHARLES L. BURDICK AND JAMES H. ELLIS.

Received October 3, 1917.

### Introduction.

This investigation of the atomic structure of crystals of chalcopyrite ( $\text{CuFeS}_2$ ) was undertaken, as no study of a complex sulfide by the method of X-rays had previously been carried out. Moreover, comparatively few crystals of the tetragonal system in which chalcopyrite crystallizes, have been examined, the only ones being certain oxides (rutile, anatase, cassiterite, zircon) of the formula  $\text{MO}_2$  studied by Vegard<sup>1</sup> and by Williams.<sup>2</sup> Yet the determination of the structure of crystals belonging to other than the isometric system is likely to throw most light on the funda-

<sup>1</sup> *Phil. Mag.*, **32**, 65, 505 (1916).

<sup>2</sup> *Proc. Roy. Soc. London*, **93**, 418 (1917).