AUTHOR: None

ORG: Chemistry Department, Central China Engineering College

TITLE: "Intensive Struggle Between Materialism and Idealism in Chemistry"

SOURCE: Peking, K'o-hsueh T'ung-pao (Science Bulletin), Vol 19, No 10, 15 Oct 74, pp 441-452

ABSTRACT: This article discussesthe constantly intensive struggle between materialism and idealism throughout the history of chemistry. The controversial interpretations discussed includes: (1) the structure of matter , and the question of its divisibility and fundamental particles, as well as the ancient Chinese interpretation of the "five elements"; (2) the theory of the elements against the alchemists; (3) the combustion theory against the phlogiston theory; (4) the atomic theory, periodic law and organic synthesis against metaphysics; and (5) the molecular structure theory and Gerhardt 's interpretation. In conclusion, the importance of applying the materialistic dialectics to the solution of problems in chemistry is stressed.

Joint Publication Research Service

JPRS 64112, 14 Feb 75, PRC SCIENTIFIC ABSTRACTS No 108

AUTHOR: SHEN Chu-t'ung (3088/0031/0681)

ORG: Institute of Physics, Chinese Academy of Sciences

TITLE: "Growth Mechanism of Synthetic Diamond Crystals"

SOURCE: Peking, K'o-hsueh T'ung-pao (Science Bulletin), Vol 19, No 10, 15 Oct 74, pp 453-462

ABSTRACT: The author discusses the mechanism of the growth of synthetic diamond crystals in the direct temperature and pressure application process, the indirect catalytic fusion process,and the exterior extension crystal growth process respectively. Based on a phase equilibrium diagram showing the changes of the carbon phases in correspondence to temperature and pressure changes of the three processes, the author studies the movement and interactions of the carbon atoms and their aggregates from nuclear formation to crystalline growth in each process to determine the mechanism of their respective crystalline growth.

National Tech Info Service
5285 Port Royal Rd,
Springfield Va 22151

Deposit Account $25.00 deposit for individual pub.

Subscription $38.00 per yr.