Atomvolumen, Packungsdichte und Wertigkeit von Caesium unter Druck

Atomic Volume, Packing Density and Valence of Cesium under Pressure

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The volume changes of cesium under pressure are discussed with respect to the packing density of the atoms and valence. The element is univalent in densely packed Cs I and Cs II. Valence increases in Cs III (packing density q = 0.973), in Cs IV (q = 0.943), in Cs V (q ≈ 0.99), and in close packed Cs VI. The diminuition of volume beyond ≈15 GPa is caused by this increase only which implies that electrons of the fifth shell act as valence electrons.

Key words: Cesium, High Pressure, Atomic Volume, Packing Density, Valence