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**A Scale of Atomic Electronegativity in Terms of Atomic Nucleophilicity Index**

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**Abstract**

Electronegativity (χ) is an important physico-chemical concept to study the chemical structure and reactivity. Although, the conundrum related to measurement of electronegativity still persists. In view of this fact, a simple yet rigorous scale of electronegativity (χ), invoking an inverse relationship with atomic nucleophilicity index (N), has been proposed for 103 elements of the periodic table. The computed data follows periodicity distinctly satisfying all the sine qua non of a standard scale of electronegativity. Further, electronegativity values display a sound similarity with the standard electronegativity scales validating the suitability of the proposed model. Molecular electronegativities of some polyatomic molecules have also been calculated using the proposed scale of electronegativity.

**Keywords:**

Conceptual density functional theory (CDFT), Chemical reactivity descriptor, Empirical approach, Periodicity, Electronegativity equalization principle, Silicon rule.

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