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## **Electron screening: answer to an old problem from a new perspective**

In nuclear reactions induced by low-energy charged particles, atomic electrons can participate in the process by screening the nuclear charge and so, effectively reducing the repulsive Coulomb barrier. Consequently, the measured cross section is enhanced by an effect called electron screening. There are several theoretical models, based on a static approach, describing this effect. However, in numerous experiments, different research groups obtained extremely high values of electron screening that theories failed to describe. Instead, supported by our experimental findings, we proposed a new, dynamic approach to the problem, where screening is influenced by valence electrons present in the hosting material crystal lattice. Our latest experimental results will be discussed.

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