

Peer Review

Review of: "Universal Wong Formula for Capture Cross Sections from Light to Super-Heavy Systems"

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The article, "*Universal Wong Formula for Capture Cross Sections from Light to Super-Heavy Systems*," by Ning Wang et al., presents a significant advancement in the field of nuclear physics by extending the applicability of the Wong formula to a universal framework. This study bridges theoretical and experimental gaps by providing a robust model that accurately predicts capture cross-sections across a broad spectrum of systems, from light to super-heavy nuclei.

The authors demonstrate the formula's versatility and precision through comprehensive comparisons with experimental data, showcasing its potential to unify diverse nuclear interactions under a single theoretical framework. The work is well-structured, methodologically sound, and offers clear implications for future research in nuclear reaction dynamics.

However, the authors must consider the inclusion of the reference "*Reaction functions for weakly bound systems*" (*Physics Letters B* 678 (2009) 77–81). This is essential for the paper as it provides a critical foundation for understanding the reaction dynamics of weakly bound nuclei, which directly informs the theoretical advancements presented in the current study. By acknowledging this reference, the authors not only place their work within the broader scientific context but also highlight the progress from earlier research to their novel contributions. Adding this citation will strengthen the paper's credibility and demonstrate its connection to established studies.

Given its originality, broad applicability, and potential to impact both theoretical and applied nuclear physics, this article is a valuable contribution to the field. It satisfies the standards and focus of the Qeios journal, making it highly deserving of publication.

Declarations

Potential competing interests: No potential competing interests to declare.