

# **Analytic $\alpha$ -Expressions for the proton charge radius, the proton to electron mass ratio and the elementary particles Wirkungsquantum**

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## **Abstract**

New expressions in terms of the proton charge radius are derived for the Sommerfeld or fine-structure constant, the proton to electron mass ratio and the Wirkungsquantum for both elementary particles. An ad hoc, small uncertainty numeric value for the proton charge radius was derived based on the currently accepted, high uncertainty value for which a small correction factor was found to be required during the derivation of the sought expressions. A quasi-exact match to the Planck constant quantum of action  $h$  was used as criteria to heuristically fine tune the numerical value of the proposed “new” proton charge radius. Definitions of the electron Wirkungsquantum and the proton Wirkungs quantum are disclosed.

CdTe quantum dots in solar cell performance”; Microsystem Technologies/ 2017; 23: 9.

3. Saucedo-Flores E, Ruelas R and Flores M et al., “Dynamic behavior modeling of MEMS parallel plate capacitors”; PLANS/2004.

[7<sup>th</sup> International Conference on Applied Physics & Space Science](#); Webinar- August 17-18, 2020.

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## **Biography:**

Emmanuel Saucedo Flores is a professor-researcher at the Universidad de Guadalajara, México and is involved in a Material Science doctoral program. He has over 20 years’ professional experience in the discrete semiconductors field at Motorola-On Semiconductor. He obtained his PhD title in Solid-State Physics at the CINVESTAV-IPN in Mexico City.

## **Speaker Publications:**

1. Saucedo-Flores Emmanuel, Ruelas Rubén and Cobián Víctor. “Particle in a Finite Dual Well Potential System: A Simple Quantum Model for Well Super- Localization and Ultra-Dispersion Duality Effect an Alternative Model for the Hydrogen Atom”; Research Report No. CA378/13/ 2014.
2. Emmanuel Saucedo-Flores and Ruelas Rubén et al., “Synergistic effects of nanotexturization and down shifting