

To the end of his days Schrödinger was convinced that the wave fields of his equation would describe physical realities. The then predominating conservative mechanistic views led to a gradually increasing unreality of the Schrödinger fields in the course of the interpretation controversy, and to the settlement on a particle-and-wave-model in the framework of the Copenhagen interpretation: the amplitude merely states where the particle could be. Schrödinger had to accept the dematerialization of his wave fields, especially since he himself had never been able to give a tenable interpretation. His hydrogen-interpretation, suggestive in view of the Rutherford-Bohr-model,

$$\psi\psi^* = \varrho \quad (\varrho: \text{“smeared charge” of the orbiting electron}) \quad (6)$$

proved to be untenable. At that time, in the thirties, it could not occur to anyone to regard the standing waves of the light-equation (5), or respectively (4), as standing light. There was the strong Rutherford model, seemingly secured to a convincing way by scattering experiments; and the Bohr model, which, especially through Sommerfeld’s refinement, could meet almost all expectations.

Today the old pure-particle-models are, of course, just serving introductory means, whereas in research and development almost exclusively Born’s wave-and-particle-model is used. Its successes testify to the great truthfulness of that picture. Nevertheless, in view of the Maxwell-Dirac-isomorphism, today we have to ask ourselves: Had Schrödinger been right? Do his fields possess reality? Do we have to comprehend hydrogen as standing light?

- |   |   |
|---|---|
| <p>[1] L. de Broglie, These de doctorat. J. de Physique <b>1</b>, 1 (1926).<br/>         [2] W. R. Hamilton, Trans. Roy. Irish Acad. <b>15</b>, 69 (1828); <b>16</b>, 4 and 93 (1830); <b>17</b>, 1 (1837).<br/>         [3] W. R. Hamilton, Math. Papers <b>1</b>, 484 (1837).</p> | <p>[4] P. Ehrenfest, Z. Physik <b>45</b>, 455 (1927).<br/>         [5] H. Sallhofer, Z. Naturforsch. <b>35 a</b>, 995 (1980).<br/>         [6] H. Sallhofer, Z. Naturforsch. <b>41 a</b>, 468 (1986) and Corrigenda in: H. Sallhofer, Z. Naturforsch. <b>41 a</b>, 1087 (1986).</p> |
|---|---|

## Erratum

K. Murawski, A Note on Solutions of the Korteweg-de Vries Equation, Z. Naturforsch. **40 a**, 193–194 (1985).

The formula (17) should be written as follows

$$p_2 = g k^2 \operatorname{sech}^2(g k \eta) + 4 g k^2 \frac{4 k C_1 \operatorname{sh}(2 g k \eta) - \operatorname{ch}(2 g \eta)}{[8 k C_1 \operatorname{ch}^2(g k \eta) - \operatorname{sh}(2 g k \eta)]^2}, \quad (17a)$$

$$p_2 = -g k^2 \operatorname{csch}^2(g k \eta) + 4 g k^2 \frac{4 k C_1 \operatorname{sh}(2 g k \eta) + \operatorname{ch}(2 g k \eta)}{[8 k C_1 \operatorname{sh}^2(g k \eta) + \operatorname{sh}(2 g k \eta)]^2}. \quad (17b)$$

---

Nachdruck — auch auszugsweise — nur mit schriftlicher Genehmigung des Verlages gestattet  
 Verantwortlich für den Inhalt: A. KLEMM  
 Satz und Druck: Konrad Tritsch, Würzburg



Dieses Werk wurde im Jahr 2013 vom Verlag Zeitschrift für Naturforschung in Zusammenarbeit mit der Max-Planck-Gesellschaft zur Förderung der Wissenschaften e.V. digitalisiert und unter folgender Lizenz veröffentlicht: Creative Commons Namensnennung-Keine Bearbeitung 3.0 Deutschland Lizenz.

Zum 01.01.2015 ist eine Anpassung der Lizenzbedingungen (Entfall der Creative Commons Lizenzbedingung „Keine Bearbeitung“) beabsichtigt, um eine Nachnutzung auch im Rahmen zukünftiger wissenschaftlicher Nutzungsformen zu ermöglichen.

This work has been digitalized and published in 2013 by Verlag Zeitschrift für Naturforschung in cooperation with the Max Planck Society for the Advancement of Science under a Creative Commons Attribution-NoDerivs 3.0 Germany License.

On 01.01.2015 it is planned to change the License Conditions (the removal of the Creative Commons License condition “no derivative works”). This is to allow reuse in the area of future scientific usage.