

Physical Sciences – Zeitschrift für Naturforschung A

About this Journal

The "*Zeitschrift für Naturforschung*" – translated literally: Journal for Research in Natural Sciences – was founded by Alfred Klemm together with Hans Friedrich-Freksa in 1945, providing a badly needed functioning means of professional communication for scientists in postwar Germany.

When glancing through the journal's initial issues, constituting volume 1 in 1946, one discovers some real jewels: Among others, Max Planck contributed a memorial article on the occasion of the 300th birthday of Gottfried Wilhelm Leibniz [[ZfN 1, issue 5, page 298](#)]; Pascual Jordan gave an interpretation of cosmic radiation [[1, 6, 301](#)]; Otto Hahn, Fritz Strassmann, and Walter Seelmann-Eggebert reported on the isolation of elements produced by the fission of Uranium nuclei [[1, 10, 545](#)], and Werner Heisenberg pondered over the mathematical framework of quantum field theory [[1, 11-12, 608](#)]. In those early days, the journal's board of trustees consisted of Arnold Sommerfeld, Klaus Clusius, and Alfred Kühn – a physicist, a chemist, and a biologist, who were joined by Werner Heisenberg, Adolf Butenandt, and Otto Renner in 1947.

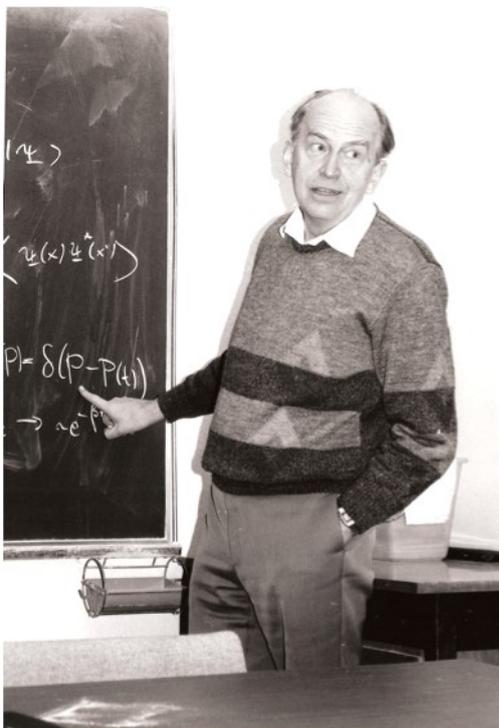
Already in 1947, starting with volume 2, the journal was divided into part A comprising Astrophysics, Physics, and Physical Chemistry, and part B dedicated to Chemistry and Biology; much later, in 1973, Biology became part C. From 1950 until 2007, from volume 5 to volume 62, Alfred Klemm signed as being the sole person responsible for the content of *Zeitschrift für Naturforschung A* (ZNA for short) – a singularly long and tight connection between a journal and its founder!



Alfred Klemm (sitting left) with his colleagues. Sitting right to him is Otto Hahn, in whose Kaiser-Wilhelm-Institut in Tailfingen (located half-way between Stuttgart and the lake Bodensee) Klemm was working as a young physical chemist.

The young journal flourished. Flipping through the earlier volumes of *ZNA*, one finds remarks by Hans A. Bethe on the eigenfunctions of the Hydrogen atom within Dirac's theory [3, 8, 470; as part of the "Festschrift" dedicated to Arnold Sommerfeld on the occasion of his 80th birthday by his former students], a treatise by Kurt Symanzik on Schwinger's functional in field theory [9, 10, 809], a study by Gerhart Lüders concerning localized states in the Bethe-Goldstone equation [14, 1, 1], or an investigation of unimodular matrices homomorphic to Lorentz transformations by A. W. Saenz and E. P. Wigner [22, 9, 1293] – a random selection that necessarily has to remain vastly incomplete. Clearly, the journal was harvesting the intellectual fruits of great minds, who at that time may not always have received the attention they deserved, since the predominant publication language still was German. But that changed gradually, until the "Informations for Contributors" were given in English in the eighties.

In 1985 the editorial board was joined by Siegfried Großmann, who became sole Editor-in-Chief in 2003. Under his advice and guidance the "Zeitschrift" was carefully modernized, still maintaining the original spirit, but now allowing for electronic submissions, and making use of the upcoming internet. Thus, *ZNA* was turned into a truly international journal, as always attracting contributions from all branches of physics, now with notable strengths in the fields of nonlinear dynamics and fluid mechanics.



Siegfried Großmann lecturing on statistical physics. This photograph was taken in the mid-nineties during one of his weekly group seminars.

Effective 2015, the previous "Verlag der Zeitschrift für Naturforschung", until then run by the Klemm family, was taken over by De Gruyter. With that, *ZNA* became a fully web-based journal, facilitating communication between authors and editors on the one hand and between editors and referees on the other, by employing a web-supported manuscript management system, and allowing for convenient search in the journal's now complete electronic archive – thus making a wealth of hidden treasures easily accessible again.

At all times, *ZNA* has published landmark articles. The breadth of topics covered by the journal may be illustrated best by listing some papers which turned out to become particularly influential:

- [Theorie der Streuung schneller geladener Teilchen I. Einzelstreuung am abgeschirmten Coulomb-Feld](#) (Theory of scattering of fast charged particles I. Single scattering event due to a screened Coulomb field) by Gert Moliere, *ZNA* 2, 133 (1947).
- [Theorie der Streuung schneller geladener Teilchen II. Mehrfachstreuung und Vielfachstreuung](#) (Theory of scattering of fast charged particles II. Multiple scattering events) by Gert Moliere, *ZNA* 3, 78 (1948).
- [Experimentelle und theoretische Untersuchung des zwischenmolekularen Übergangs von Elektroenanregungsenergie](#) (Experimental and theoretical investigation of the intermolecular transition of electronic excitation energy) by Theodor Förster, *ZNA* 4, 321 (1949).
- [Über den Ursprung der Magnetfelder auf Sternen und im interstellaren Raum](#) (On the origin of magnetic fields on stars and in interstellar space) by Ludwig Biermann, *ZNA* 5, 65 (1950).
- [Eine neues Massenspektrometer ohne Magnetfeld](#) (A new mass spectrometer without magnetic field) by Wolfgang Paul and Helmut Steinwedel, *ZNA* 8, 448 (1953).
- [Molekulare Theorie der Mikroreibung](#) (Molecular theory of microfriction) by A. Gierer and K. Wirtz, *ZNA* 8, 523 (1953).
- [Invariant distributions and stationary correlation-functions of one-dimensional discrete processes](#) by S. Grossmann and S. Thoma, *ZNA* 32, 1353 (1977).
- [Steric interaction of fluid membranes in multilayer systems](#) by W. Helfrich, *ZNA* 33, 305 (1978).
- [Strange attractors, chaotic behavior, and information-flow](#) by Robert Shaw, *ZNA* 36, 80 (1981).
- [A pulsed molecular-beam microwave Fourier-transform spectrometer with parallel molecular-beam and resonator axes](#) by J.-U. Grabow and W. Stahl, *ZNA* 45, 1043 (1990).

In this tradition, *ZNA* is serving the international scientific community still today as an efficient, up-to-date communication platform which covers all areas of experimental and theoretical physics, combining rigorous publication standards with high visibility.

A more comprehensive overview (in German) concerning the history of the *Zeitschrift für Naturforschung A*, enriched with personal reminiscences, was given by S. Großmann on the occasion of the 100th birthday of Alfred Klemm in [ZNA 68, 3 \(2013\)](#).

*Professors are authors (of articles in
this journal)
and Nobel prize winners, too.
To read us,
despite the expenses,
is customary in many countries.
(Alfred Klemm)*

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und Nobelpreisträger auch.
Uns zu lesen,
trotz der Spesen,
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