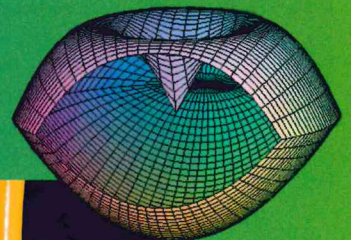
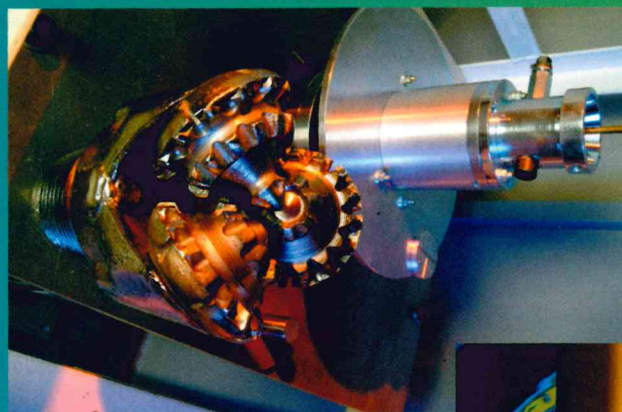


Volume 96 2016 March Number 3

Journal of Applied Mathematics and Mechanics

ZAMM

Zeitschrift für Angewandte Mathematik und Mechanik
Founded by Richard von Mises in 1921



Edited in cooperation with Martin-Luther-Universität
Halle-Wittenberg and Gesellschaft für Angewandte
Mathematik und Mechanik e.V. (GAMM)

Editors-in-Chief: H. Abels, H. Altenbach, S. Odenbach, C. Wieners

www.zamm-journal.org

WILEY-VCH

ISSN 0044-2267 ZAMM, Z. angew. Math. Mech.
96 No. 3 (March) 275–402 (2016)

Page 344–360

Baiyu Liu, Li Ma, and Jing Wang

Blow up threshold for the Gross-Pitaevskii system with trapped dipolar quantum gases

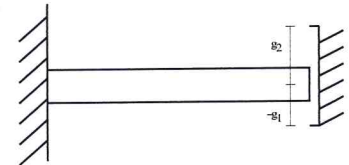
The authors study the Gross-Pitaevskii system with trapped dipolar quantum gases. They obtain both the stable regime and the unstable regime. Moreover, via a construction of cross minimization problem, the blow up threshold is established.

Page 361–384

Moncef Aouadi and Maria I. M. Copetti

Analytical and numerical results for a dynamic contact problem with two stops in thermoelastic diffusion theory

The authors investigate the dynamic behaviour of a thermoelastic diffusion rod clamped at one end and moves freely between two stops at the other. The contact is modelled with the Signorini or normal compliance conditions. The coupled system of equations consists of a hyperbolic equation and two parabolic equations. This problem poses new mathematical difficulties due to the nonlinear boundary conditions. The existence of a weak solution is proved using a penalization method and compensated compactness.

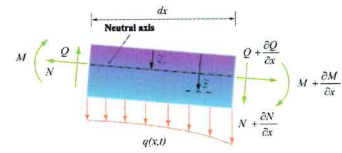


Page 385–400

Hamid M. Sedighi, Farhang Daneshmand, and Mohamadreza Abadyan

Modeling the effects of material properties on the pull-in instability of nonlocal functionally graded nano-actuators

Dynamic pull-in behavior of nonlocal functionally graded nano-actuators by considering Casimir attraction is investigated in this paper. It is assumed that the nano-bridge is initially at rest and the fundamental frequency of nano-structure as a function of system parameters is obtained asymptotically by Iteration Perturbation Method (IPM). The effects of actuation voltage, nonlocal parameter, properties of FGM materials and intermolecular force on the dynamic pull-in behavior are studied. It is exhibited that two terms in series expansions are adequate to achieve the acceptable approximations for fundamental frequency as well as the analytic solution.

**BOOK REVIEW**

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Karl-Eugen Kurrer, *Geschichte der Baustatik*, 2. stark erweiterte Auflage, Ernst & Sohn, Berlin 2016

Reviewer: Norbert Gebbeken, Munich

ZAMM - Zeitschrift für Angewandte Mathematik und Mechanik is indexed in Journal Citation Reports/Science Edition (Thomson ISI), Mathematical Reviews/MathSciNet/Current Mathematical Publications (AMS), PASCAL Database (INIST/CNRS), Science Citation Index Expanded™ (Thomson ISI), SCOPUS (Elsevier), Statistical Theory & Method Abstracts (International Statistical Institute), Web of Science® (Thomson ISI), Zentralblatt MATH/Mathematics Abstracts (FIZ Karlsruhe).

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Book Review

Karl-Eugen Kurrer, Geschichte der Baustatik, 2. stark erweiterte Auflage, 1188 Seiten, ca. 970 Abbildungen, Hardcover, Deutsch, 109.00 €, ISBN: 978-3-433-03134-6 Ernst & Sohn Berlin, 2016

When the reviewer studied civil engineering in the seventies, he concentrated on the numerical formulation of ultimate limit state calculations, a new discipline at that time. During discussions he was confronted with arguments like: it should not be allowed to verify against plastic limit states. It was referred to disputations of Stüssi; Kollbrunner and Kazinczy in the thirties. This was the beginning of the activities of the reviewer in the field of the history of the nonlinear behavior of structures. While doing literature review he realized that there was really no literature available on the history of the theory of structures.

Nevertheless, he learned that it is very effective to study a topic, starting from the very beginning in history. How observed researchers, universal genius like Leonardo da Vinci, nature and how did they describe the observations? What was their way of thinking? How did they develop models? Why it took almost hundred years to achieve what is today called Bernoulli's hypothesis? To find answers to such questions makes it much easier to understand better development processes and to teach students. It is good to realize that it takes time to understand the fundamentals of natural sciences.

To the knowledge of the reviewer, Karl-Eugen Kurrer is the first and only on worldwide, who studied the history of the theory of structures. In his book, he described that there are seven gates to the knowledge of the history of the theory of structures, as they are: History of science, Construction history, Didactics, Biographic studies, Bibliographic studies, Aesthetics and Theory of science. One could add Civil engineering structures embedded in culture and time.

In times where students are convinced that the world behaves in accordance with available numerical tools, and they do not realize that they turn physics upside down, it becomes more and more important to refer back to the origins of our profession.

Karl-Eugen Kurrers book is fascinating and it has already become part of my courses on "Baustatik". The 2nd edition, published 2016, counts 1161 pages compared to 539 pages of the 1st edition. Thus, the 2nd edition is a considerably extended edition.

I would like to strongly recommend the 2nd edition not only to students and civil engineers in practice, but also to all interested in structural mechanics, wherever in aerospace engineering, mechanical engineering, sport-equipment industry etc.

Munich

Norbert Gebbeken