

IEEE Standard on
**Magnetostrictive Materials:
Piezomagnetic Nomenclature**



THE INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS, Inc.



Documents

Document Sharing Hub

Authorized licensed use limited to: Tsinghua University. Downloaded on March 07, 2026 at 01:10:12 UTC from IEEE Xplore. Restrictions apply.

Full document details: IEEE 319-1971

IEEE
Std 319-1971

IEEE Standard on
Magnetostrictive Materials:
Piezomagnetic Nomenclature

Sponsored by
Technical Committee on Transducers and Resonators
of the
IEEE Group on Sonics and Ultrasonics

© Copyright 1971 by
The Institute of Electrical and Electronics Engineers, Inc.

*No part of this publication may be reproduced in any form,
in an electronic retrieval system or otherwise,
without the prior written permission of the publisher.*

Acknowledgment

The Institute wishes to acknowledge its indebtedness to those who have so freely given of their time and knowledge and have conducted experimental work on which many of the IEEE publications are based. This publication has been developed under the auspices of the IEEE Group on Sonics and Ultrasonics. It was sponsored and approved by the Technical Committee on Transducers and Resonators, and was prepared by the Subcommittee on Piezomagnetism, whose membership was:

R. S. Woollett, *Chairman*

H. G. Baerwald
S. L. Ehrlich
R. L. Harvey

P. L. Smith
C. M. van der Burgt
R. H. Whymark

The membership of the Transducers and Resonators Committee is:

John E. May, *Chairman*

J. H. Armstrong
H. G. Baerwald
R. Becham
D. Berlincourt
J. L. Bleustein
W. G. Cady
A. R. Chi
W. A. Edson
S. L. Ehrlich

J. H. Eveleth
E. A. Gerber
E. Hafner
D. L. Hammond
R. L. Harvey
J. D. Holmbeck
W. H. Horton
H. Jaffee

W. P. Mason
A. H. Meitzler
G. Myers
C. F. Pulvari
P. L. Smith
W. J. Spencer
R. A. Sykes
H. F. Tiersten
R. S. Woollett

Approved December 3, 1970

IEEE Standards Committee

At the time this standard was approved, the IEEE Standards Committee had the following membership:

B. B. Barrow, *Chairman*

S. I. Sherr, *Secretary*

E. C. Barnes
F. K. Becker
R. C. Cunningham
W. H. Devenish
C. J. Essel
R. F. Estoppey
D. C. Fleckenstein
J. P. Fitzgerald

J. A. Goetz
A. D. Hasley
A. R. Hileman
D. T. Michael
E. H. Myers
F. M. Oberlander
A. M. Okin
J. B. Owens
R. H. Rose

G. Shapiro
H. H. Smith
S. V. Soanes
F. G. Timmel
H. P. Westman
W. T. Wingtringham
C. J. Wylie
W. N. Zippler

Notice

The IEEE will maintain this Standard current with the state of the technology. Comments on this Standard as well as suggestions for additional material that should be included are invited. These should be addressed to:

Secretary
IEEE Standards Committee
The Institute of Electrical and Electronics Engineers, Inc.
345 East 47 Street
New York, N.Y. 10017

Contents

SECTION	PAGE
Foreword	4
Piezomagnetic and Magnetostrictive Analogies	5
General	5
Materials	5
Axes and Orientation	5
Piezomagnetic Relations, Symbols and Units	6
Equations of State	6
Symbols and Units	9
Tables	
I Piezomagnetic and Piezoelectric Equations in Matrix Form	6
II Standard Symbols and Their SI Units - Comparison With Symbols of Other Authors, and CGS Conversion Factors	7
References	10