BIBLIOGRAPHY OF PIEZOELECTRICITY
- 1953 -

Squier Signal Laboratory
Contract No. DA 36-039-sc-42587
Third Quarterly Progress Report
Wesleyan University - March 15, 1954

Karl S. Van Dyke
E. Charles Crume, Jr.

Department of the Army Project Number: 3-99-11-022

Signal Corps Project Number: 37-142B

Placed by U. S. Army Signal Corps Engineering Laboratories

Fort Monmouth, N. J.

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Third Quarterly Progress Report
on Piezoelectric Crystal Studies and Measurements

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PREFACE

This is the third of this series of Annual Bibliographies of Piezoelectricity. Again the coverage is much more extensive that that of the section on Piezoelectricity "Radio Progress...." in the year which is a feature of the April issues of the Proceedings of the Institute of Radio Engineers, and the bibliography is dated late enough in the new year to enable it to include most of the journals for the full calendar year preceding.

The same scheme of indexing by sub-fields throughout the pages is again used.

It is presumed that the bibliography will as in the past become promptly available on microcards through the Library of Congress so that its circulation may be as wide as is called for. Contract and report numbers should be used in requesting copies.

The authors acknowledge with appreciation the large part which Betty A. Crume has played in the preparation of this volume.

LIST OF JOURNALS CONSULTED.

Acta Crystallographica (Acta Cryst.)

American Journal of Physics (Amer. Jour. Phys.)

American Scientist (Amer. Scientist)

Annalen der Physik (Ann. der Phys.)

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Journal of Applied Physics (Jour. Appl. Phys.)

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H. Deresiewicz, (Columbia University) - "Effects of an oscillating torsional couple on the contact surfaces of elastic spheres," Contr. Nonr-266(09): Tech. report no. 5, Feb. 1953.			x		
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A. Dognon - BOOK REVIEW - "Les Ultrasons et Leurs Applications," (Presses Universitaires, Paris, 1953, pp 181). J. phys. et radium 14, 558, Oct. 1953.					x
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Endevco Corp., "Accelerometer," Electronics 26, 292, Jan. 1953.				x	
C. Ener, "On the study of the wave field of a vibrating quartz crystal," (Rev. Fac. Sci. Univ. Istanbul A, 18, 101-09, Jan. 1953.) Phys. Abstr. 56, No. 4668, July 1953.			x	x	x
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V. H. Fedorovich, "Acoustical method of measurement of vibration," (Zh. Tekhn. Fiz. 22, 238-44, 1952, in Russian), Jour. Acous. Soc. Amer. 24, 788, Nov. 1952.					x
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E. A. Gerber, "A review of methods for measuring the constants of piezoelectric vibrators," Proc. IRE 41, 1103-1112, Sept. 1953.			X		
G. M. Giannini & Co., Inc., "Oil-filled accelerometer unit," Electronics 26, 403-05, Mar. 1953.				X	
J. H. Gibbs, "Ferroelectricity in rochelle salt," (Bulletin) Amer. Phys. Soc. 28, 23, April 30, 1953.		X			
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M. Greenspan, M. C. Thompson, Jr., "Eleven megacycle interferometer for low pressure gases," Jour. Acous. Soc. Amer. 25, 92-6, Jan. 1953.					X
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A. Guinier, - BOOK REVIEW - "X-ray crystallographic technology," edited by T. L. Tippell and Kathleen Lonsdale, London: Hilger and Watts, 1952. (U.S. Distributor - Jarrell Ash, Boston), pp 330 - illus. + plates.	X				
S. B. Gurevich, V. G. Panchenko, "Ferroelectric materials," (Priroda No. 3, 54-61, Mar. 1952), Wireless Engr. 30, No. 1373, May 1953.		X			

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Quarterly progress report no. 8, Aug. 31 - June 1, 1953.					
Quarterly progress report no. 9, Sept. 1 - Nov. 30, 1953.					
Harshaw Chemical Co. - H. C. Kremers and others - "Barium Titanate and related crystal growth," Contr. DA36-039-sc-15493 (cont. of Contr. DA-36-039-sc-74):	X	X			
Interim report no. 1 July 1 - Sept. 30, 1952.					

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Harvard University - C. Frondel - "Investigation into effects of radiation on the physical properties of quartz," Contr. 36-039-sc-15350: Quarterly progress report no. 4 April 30 - July 30, 1952 Quarterly progress report no. 5. July 30 - Oct. 30, 1952 TAB U - 11, AD-7,256, May 22, 1953. Quarterly progress report no. 6 Oct. 30, 1952 - Jan 30, 1953. TAB U - 24, AD-12 917, Sept. 9, 1953. Quarterly progress report no. 7 Jan 30 - April 30, 1953.	x		x		
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G. Herrmann - (Columbia University) - "Forced motions of elastic rods," Contr. Nonr-266(09): Tech. report no. 4, Feb. 1953.			X		
G. Hess (Lavoie Labs.) - "Development of frequency meter," Contr. DA36-039-sc-5526: Quarterly progress report no. 5 Aug. - Nov. 1952. Quarterly progress report no. 6 Dec. 1952 - Feb. 1953. Quarterly progress report no. 7 Mar. - May 1953.			X		
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K. Hirakawa, T. Okada, "On the dielectric properties of tungsten trioxide," (Mem. Fac. Sci. Kyūsyū Univ. B, 1, No. 1, 1-8, 1951) Phys. Abstr. 56, No. 207, Jan. 1953.		X			

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T. F. Hueter, "A temperature invariant impedance point in the frequency response of circular barium titanate transducers," Jour. Acous. Soc. Amer. 25, 152, Jan. 1953.			x	x	
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R. W. James, BOOK REVIEW - "X-ray crystallography," 5th edition, (London: Methuen and Co. 1952. pp X + 101. Proc. Phys. Soc. 66A, 499, May 1, 1953.	x				
E. T. Jaynes, BOOK REVIEW - "Ferroelectricity," (Princeton University Press, pp 144) Physics Today, 6, 31, Mar. 1953.	x	x			
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K. Kambe, "Hysteresis loops of ceramic barium titanate at higher frequencies II," Jour. Phys. Soc. Japan 8, 15-20, Jan.-Feb. 1953.		x			
T. R. Kane (Columbia University) - "Reflection of flexural waves at the edge of a plate," Contr. Nonr-266(09): Tech. report no. 6, Feb. 1953.			x		
W. Kanzig, R. Sommerhalder, "Das verhalten von kolloidalen seignetteelektrika II, Theoretische Betrachtungen," Helv. Phys. Acta 26, 603-10, 1953.		x			
A. Karolus, "A new quartz oscillator for the frequency range 1-20 kc/s," (Elektrotech. Z., 74, 136-140, Mar. 1953.) Wireless Engr. 30, No. 2267, Aug. 1953.			x		
J. Karpovich, "The study of the molecular structure of organic liquids by means of ultrasonics," (Program) - Acous. Soc. Amer. 11, May 1953.					x
H. F. Kay, "Report on researches with ferroelectric materials," (Rep. Brit. Elect. Res. Assoc. Ref. L/T257, 18, (1951)). Phys. Abstr. 56, No. 3286, May, 1953.		x			
S. Kelly, "Piezo-electric crystal pick-ups," (J. Brit. Instn. Radio. Engrs. 13, 161-72, Mar. 1953.) Elec. Engr. Abstr. 56, No. 3006, July 1953.				x	

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E. Kettel, "The stability of quartz oscillators," Wireless Engr. 30, No. 1274, May 1953. (Telefunken Ztg. 25, 246-258, Nov. 1952.)			x		
E. Kettel, "Quartz-crystal circuit with variable coupling as oscillator and discriminator," (Telefunken Ztg. 25, 265-69, Nov. 1952.) Wireless Engr. 30, No. 1277, May 1953.			x		
V. P. Konstantinova, A. V. Shubnikov, "Vibrations of 'textural' piezoelectric rochelle salt laminae," (Zh. tekh. fiz. 21, 962-9 (1951) In Russian) Phys. Abstr. 56, No. 1469, Mar. 1953.				x	
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M. S. Kosman, "Some remarks on the paper 'Dynamics of barium titanate polarization process," (Ah. eksper. teor. Fiz. 23, 239, (1952) In Russian) Phys. Abstr. 56, No. 3289, May 1953.		x			
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A. L. Lane, "Design techniques for a high frequency transducer with a wide-beam searchlight pattern," Jour. Acous. Soc. Amer. 25, 697-702, July 1953.				x	
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Y. LeCorre, "Détermination des sept constantes élastiques dynamiques du phospate monoammonique," Comp. Rend. 236, 1903-05, May 11, 1953.		x			
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R. B. Lindsay, (Brown University) - Contr. N6-ori-215, Task 3, Tech. report no. 5. July 1953.					x
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F. L. McNamara, T. F. Rogers, "Direct viewing of an ultrasonic beam in a transparent solid," Jour. Acous. Soc. Amer. 25, 338-9, Mar. 1953.					x
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H. J. McSkimin, "Measurement of elastic constants at low temperatures by means of ultrasonic waves," Jour. Appl. Phys. 24, 988-97, Aug. 1953.					x
R. A. Mapleton, "Diffraction patterns for solid delay lines," Jour. Acous. Soc. Amer. 25, 516-524, May 1953.					x
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M. Marutake, "The effect of electric field on the domain structures in rochelle salt," Wireless Engr. 30, No. 2050, July 1953.		x			
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W. P. Mason, "Low frequency-temperature coefficient barium titanate ceramics which are stable with time," (talk given at Dept. of Commerce, Washington, D. C., and Acous. Soc. Meeting, Philadelphia, Penn.) Bell Lab. Rec. XXXI, 280, July 1953. (Program) Acous. Soc. Amer. 19-20, May 1953.) Jour. Acous. Soc. Amer. 25, 833-34, July, 1953.		x		x	
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Massachusetts Institute of Technology - "An x-ray diffraction study of barium titanate," Contrs. N5ori-07801, N5ori-07858: Tech. report no. 58 Jan. 1953. (H. T. Evans, Jr.)		X			
"Effect of a two-dimensional pressure on the curie point of barium titanate," Tech report no. 74 Oct. 1953. (P. W. Forsberg, Jr.)		X			
"A graphical method of evaluating certain crystallographic structure factors," Tech. report no. 65, Feb. 1953 TAB U - 9, AD-6,196, May 8, 1953. (H. J. Grenville-Wells)	X				
"Behavior of slow electrons in polar crystals," Insulation progress report no. 55 Dec. 1952. (E. P. Gross)		X			
"The growing of lead titanate crystals and some of their properties," Tech. report no. 56, Dec. 1952. (H. H. Rogers)		X			
"Tables of dielectric materials volume IV," Tech. report no. 57, Jan. 1953. (A. von Hippel)		X			
"Theory and application of dielectric materials," Summer session course, Sept. 31-2, 1952. Lab. for Insulation Research, (A. von Hipple)	X	X			

	General	Ferroelectrics	Resonators	Transducers	Ultrasonics
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L. E. Mathieu, J. P. Mathieu, "Spectre de diffusion des cristaux piézoélectriques. IV. Blende," Comp. Rend. 236, 371-73, Jan. 26, 1953.	x				
J. P. Mathieu, L. C. Mathieu, "Anomalies dans le spectre de diffusion des cristaux piézoélectriques. III. Perchlorate de lithium hydraté," (Jour. de phys. et le Radium 13, 271-74, 1952.) Physikaliche Berichte 32, 724, May 1953.	x				
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O. Mattiat, "Tranducers for producing ultrasonic waves," Jour. Acous. Soc. Amer. 25, 291-96, Mar. 1953.				x	
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R. Meier, K. Schuster, "On the theory of sound-wave propagation in piezoelectric crystals," Ann. Phys. Lpz. 11, 397-406, Feb. 10, 1953.			x		x
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	General	Ferroelectrics	Resonators	Transducers	Ultrasonics
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R. D. Mindlin, (Columbia University) - "Investigations of the mathematical theory of vibration of anisotropic bodies," Contr. DA36-039-sc-15481: Quarterly report no. 3, Oct. 1 - Dec. 31, 1952. TAB U - 25, AD-13 193, Sept. 18, 1953.			x		
C. R. Mingins et al. (Tufts College) - "An investigation of the characteristics of electromechanical filters," Contr. DA36-039-sc-5402: Quarterly report no. 7, Sept. 1, 1952. Quarterly report no. 8, Dec. 1, 1952. Quarterly report no. 9, Mar. 1, 1953. Quarterly report no. 11, Aug. 15, 1953.			x		
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Quarterly progress report no. 3 Nov. 1, 1952 - Jan. 31, 1953.					
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Quarterly progress report no. 5 May 1, 1953 - July 31, 1953. (B. Niederman et al.)					
"Low frequency ring resonators," Contr. DA36-039-sc-15338			x		
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Quarterly progress report no. 6 Dec. 25, 1952 - Mar. 25, 1953.					
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N. F. Mott, "Dislocations, plastic flow and creep," (Bakerian lecture, 1953,) Proc. Royal Soc. 220,1-14, Oct. 1953.	x				

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W. W. Mumford, "Optimum piston position for wide-band coaxial-to-waveguide transducers," Proc. IRE, 41, 256-261, 1953.				x	
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	General	Ferroelectrics	Resonators	Transducers	Ultrasonics
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B. Püschel, "Voltage measurements on rochelle salt under compressive stress," Arch tech. Messen, 197-98, September, 1952.		x			
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Radio Corporation of America - (L. E. Norton) "Investigation and study of practical utilization of molecular absorption phenomena for frequency control," Contr. DA36-039-sc-15525: Quarterly report no. 4, Feb. 1 - April 30, 1953.	x				
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R. J. Raudebaugh and others, (Georgia Institute of Technology) - "Aging study of metal plating on quartz crystals," Contr. DA36-039-sc-147: Quarterly report no. 6, Oct. 1, 1951 - Jan. 1, 1952. TAB U -7, AD-4,475, April 24, 1953. Quarterly report no. 7, Jan. 1 - April 1, 1952. TAB U - 9, AD-6, 091; May 8, 1953.			x		
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E. Roedder, (University of Utah) - "Composition and significance of fluid filled inclusions in quartz and other minerals," Contr. DA36-039-sc-42635: First quarterly progress report, Feb. 15 - May 15, 1953.	x				
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C. Rossetti, "Interferometer arrangements for the detection of ultrasonic waves," Comp. Rend. Acad. Sci. (Paris) 235, 1484-86, Dec. 10, 1952.				x	

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R. Roy and others, (Penn State College) - "Hydrothermal crystal studies," Quarterly progress report no. 7, Jan. 1 - Mar. 31, 1953. (Contr. DA36-039-sc-5594)	x			
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