Technical University of Denmark



# ERRATA: A Simple Analysis of the Propagating Acoustoelectric High Field Domain

## Mosekilde, Erik

Published in: Applied Physics Letters

Link to article, DOI: 10.1063/1.1652521

Publication date: 1968

Document Version Publisher's PDF, also known as Version of record

### Link back to DTU Orbit

*Citation (APA):* Mosekilde, E. (1968). ERRATA: A Simple Analysis of the Propagating Acoustoelectric High Field Domain. Applied Physics Letters, 13(3), 111-111. DOI: 10.1063/1.1652521

## DTU Library

Technical Information Center of Denmark

#### **General rights**

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

• Users may download and print one copy of any publication from the public portal for the purpose of private study or research.

- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

The authors gratefully acknowledge the efforts of R. Feigelson of the Stanford Center for Materials Research who grew the crystal used in the experiment, and of Spectra-Physics Corporation who supplied the pumping laser and fabricated the optical coatings. In particular the efforts of Tom Cottral, J. Ecstrand, D. Sinclair, and R. Stark of Spectra-Physics are very much appreciated. We also appreciate the skilled technical assistance of Ben Yoshizumi and R. Griffin during the course of this work. M. K. Oshman acknowledges the Sylvania Independent Research Program for partial support. <sup>1</sup>J. A. Giordmaine and Robert C. Miller, *Phys. Rev. Letters* 14, 973 (1965); *Appl. Phys. Letters* 9, 298 (1966).

<sup>2</sup>S. A. Akhmanov, A. I. Kovrygin, A. S. Piskarskas, V. V. Fadeev, and R. V. Khoklov, *Zh. Eksp. Teor. Fiz* (Sov. Phys. – JETP) **3**, 372 (1966).

<sup>3</sup>Robert C. Miller and W. A. Nordland, *Appl. Phys. Letters* 10, 53 (1967).

<sup>4</sup>L. B. Kreuzer, Appl. Phys. Letters 10, 336 (1967).

<sup>5</sup>R. G. Smith, J. E. Geusic, H. J. Levinstein, J. J. Rubin, S. Singh, and L. G. Van Uitert, *Appl. Phys. Letters* **12**, 308 (1968). <sup>6</sup>S. E. Harris, *IEEE J. Quantum Elect.* **QE-2**, 701 (1966).

<sup>7</sup>A. Ashkin, G. D. Boyd, J. M. Dziedzic, R. G. Smith, A. A. Ballman, H. J. Levinstein, and K. Nassau, *Appl. Phys. Letters* 9, 72 (1966).

<sup>8</sup>G. D. Boyd and A. Ashkin, Phys. Rev. 146, 187 (1966).

<sup>9</sup>R. L. Byer and S. E. Harris, Phys. Rev. 168, 1064 (1968).

### ERRATA

In "A Simple Analysis of the Propagating Acoustoelectric High Field Domain," [Appl. Phys. Letters 12, 273 (1968)], E. Mosekilde, Physics Laboratory III, Technical University of Denmark, Lyngby, Denmark, the acoustic dispersion was neglected. This approximation, in general, is not valid for an acoustic domain traveling with a velocity close to the velocity of sound. Taking dispersion into account, Eqs. (1), (2), and (5) should be amended to read

$$\frac{\partial w}{\partial x} + v_{s3}^{-1} \frac{\partial w}{\partial t} = \beta w - 2\alpha_L w \tag{1}$$

$$\beta = B[(v/v_{s1}) - 1]$$
(2)

$$\frac{dF}{ds} = \frac{e}{\epsilon} (n - n_0) (v_D - v_{s0}) / (v_D - v_{s2})$$
(5)

Here  $v_{s0}$  and  $v_{s2}$  are the unstiffened and the piezoelectrically stiffened velocity of sound.  $v_{s1}$  and  $v_{s3}$  are the phase and the group velocity of the acoustic modes being amplified. Thanks are due to Dr. B. K. Ridley for pointing out these corrections to me.

In "Multijoule Pulses from CO<sub>2</sub> Lasers," [Appl. Phys. Letters 12, 324 (1968)]. Alan E. Hill, Lear Siegler, Inc., Ann Arbor, Michigan, the captions beneath Figs. 2 and 3 should be interchanged.