SAMPLE PAPER

----------Text area should be 6 1/8 inches WIDE and 9 ¾ inches LONG----------
Fill each page as much as possible and watch for pagination breaks

(Space 1.5 inches (38 mm) from top of typing area to top of the title)

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DETERMINATION OF ELASTIC CONSTANTS OF THICK COMPOSITES USING AN ULTRASONIC TECHNIQUE

(Title is in 14 point, ALL CAPS, single spaced, bold, and NOT justified)

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(Author's block is indented 1 inch and in 10 point font—NO ITALICS)
NOTE: Please do <u>not</u> include e-mail addresses or titles in the author's block)

ABSTRACT. Each paper must include an abstract. **Indent two spaces from the left and right margins.** Use ***10 point size, fully justified***. Leave two blank lines below the abstract. All papers in AIP Conference Proceedings are listed by various abstracting services and databases with complete abstracts. Begin the abstract with the word "**ABSTRACT.**" followed by a period. Continue with the 10 point font.

Keywords: Keywords should be in initial caps: e.g. Ultrasonic, Eddy Current and NOT bolded
PACS: Replace this text with PACS numbers; choose from this list:
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INTRODUCTION *(12 point)* *(MARGINS ARE FULLY JUSTIFIED)*

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All text is ***12 point size***. The elastic constants of composites are some of the most important properties of such highly anisotropic materials [1]. In addition to being important in design and structural analysis, the elastic constants play an important role in ultrasonic nondestructive inspection of composites [2-6].

THEORY *(12 point)*

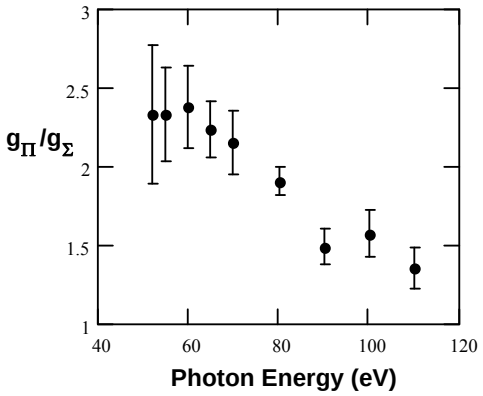
Variation of Wave Velocity with Respect to Direction *(12 point)*

The rectangular coordinate system used in this study has the 3-axis perpendicular to the sample. The general Christoffel equation is given as:

$$\left[C_{ijkl}k_j k_l - \rho\omega^2\delta_{ik}\right]\left[U_k\right] = 0 \qquad i,j,k,l = 1,2,3 \tag{1}$$

where C_{ijkl} are the elastic constants; k_1, k_2, k_3 are the wave number components in 1, 2, and 3 direction, ρ is the density, ω is the frequency, and $\vec{U}$ is the displacement vector. [2,4].

(center eqns.) $$\Omega(k,\omega) = \left|C_{ijkl}k_j k_l - \rho\omega^2\delta_{ik}\right| = 0. \tag{2}$$



All figures and tables must be positioned at either the top or bottom of a page, near where they are mentioned in the text.

FIGURE 1. A plot of the g_Π/g_Σ ratio as a function of photon energy for H_2 obtained using the ion β_N parameter data. ***(Be sure that captions are NOT indented and that labeling on axes is large enough to read. There will be a further reduction of the entire paper during the printing process. Use 10 point font for legend and scale.)***

TABLE 1. Variation of elastic constants with time shift Δt. ***(10 point)***

Time Shift Δ t (μ sec)	Converged Q Parameter	$C_{11}\left(\frac{gm}{cm\,\mu\,sec^2}\right)$
0.0	0.14	1.50
– 0.2	0.09	1.63

ACKNOWLEDGEMENTS *(12 point)*

This work is supported by the ABC Foundation. We thank J. Doe for technical assistance.

REFERENCES ***(Be sure References are single-spaced with no blank lines in between; 12 point font. Also, please follow the format provided in the Author's Guide.)***

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