



In its first 5 years, *Journal of Materials Research* has received broad acceptance and excellent reviews—not least for its figure reproduction.

Below are 8 figures from past issues that reflect the breadth of JMR's interdisciplinary coverage. Test your own broad knowledge of materials research by matching the figures with appropriate captions—and win a free book!

Contest Rules

1. For each figure select the correct caption from the list provided and write that caption letter in the appropriate space.

2. Complete the Personal Data section and mail your entry to Materials Research Society, 9800 McKnight Road, Pittsburgh, PA 15237 U.S.A. Or, if you are attending the 1990 MRS Fall Meeting in Boston, turn in your entry at the JMR Desk. Photo copies of this form are acceptable.

3. Entries must be received by MRS no later than December 31, 1990 to be eligible. Winners shall include anyone who matches all figures with correct captions. As many as 50 winners will receive a gift certificate good toward the purchase of any book published by MRS. If more than 50 contestants have perfect scores, MRS will hold a random drawing to determine the 50 book recipients.

4. A list of winners and correct answers will appear in an upcoming issue of the *MRS Bulletin*. Winners will be notified by mail no later than January 31, 1991.

5. One entry per person.

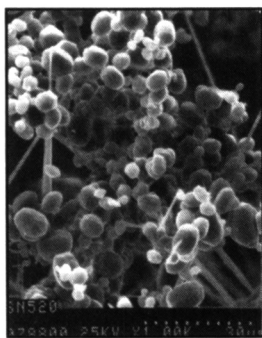
6. Feel free to consult your colleagues. JMR is, after all, an interdisciplinary journal!

The captions:

- a. *Twins in lateral silicon epi*
- b. *Anatase in titania*
- c. *Polycrystalline diamond*
- d. *Fractal dendrites*
- e. *Sulfur flowers*
- f. *Silicate birds*
- g. *Silicon nitride crystallites*
- h. *Holes in alumina*
- i. *Nanophase material*
- j. *Displacement cascades*
- k. *Bariumaluminosilicate*
- l. *Stress distortion in stencil mask*
- m. *Fe precipitates on silica*
- n. *Twins in YBaCuZnO*
- o. *Resist pattern reticulation*
- p. *Overlapping thermal spikes*

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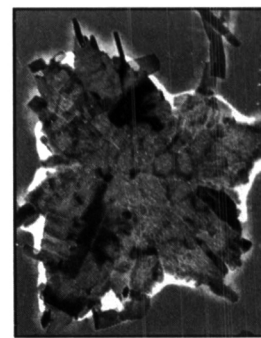
"Figure This" Contest



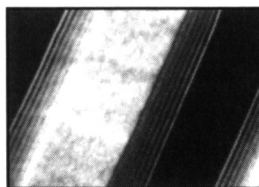
1. _____



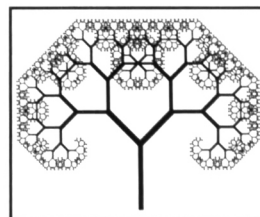
2. _____



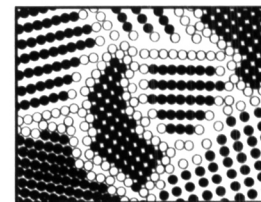
3. _____



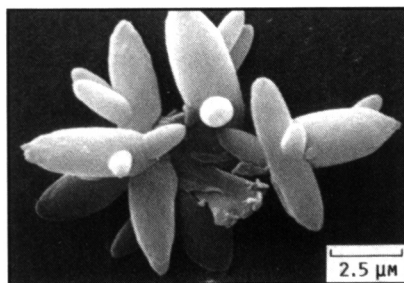
4. _____



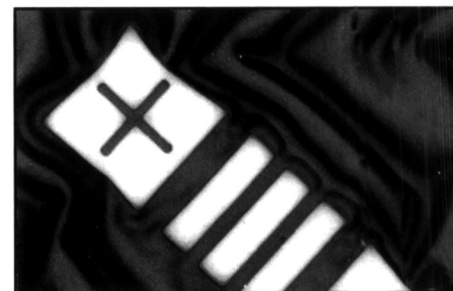
5. _____



6. _____



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Journal of Materials Research
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Articles in the December 1990 Issue (Vol. 5, No. 12)

1300 K Compressive Properties of a Reaction Milled NiAl-ALN Composite, by J. Daniel Whittenberger, Eduard Arzt, and Michael J. Luton.

A Pathway for the Decomposition of $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ in Water, by Katsuhiko Yokota, Takeshi Kura, Mitsukazu Ochi, and Saichi Katayama.

A Raman Investigation of Isotope Exchange in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$, by J. C. Irwin, J. Chrzanowski, E. Altendorf, J.P. Franck, and J. Jung.

Atomic Structure of Amorphous $\text{Al}_{90}\text{Fe}_{10}\text{Ce}_{10-x}$, by H.Y. Hsieh, B.H. Toby, T. Egami, Y. He, S.J. Poon, and G.J. Shiflet.

Compressive Creep of $\text{YBa}_2\text{Cu}_3\text{O}_x$, by K.C. Goretta, J.L. Routbort, A.C. Biondo, Y. Gao, A.R. de Arellano-Lopez, and A. Dominguez-Rodriguez.

Controlled Crystallization of Vaterite from Viscous Solutions of Organic Colloids, by Ladislave Pach, Zdenek Hrabe, Sridhar Komarneni, and Rustum Roy.

Electrical Resistivity and Hydrogen-Physisorption Behavior of Potassium-Graphite Intercalation Compounds in the Course of Reactions with Ammonia, Water and Oxygen, by N. Akuzawa, Y. Amari, T. Nakajima, and Y. Takahashi.

Flux Bundle Interactions, by Richard B. Stephens.

Improvement of Resistance to Corrosion of Stainless-Steel 304 in Acid Solutions by Simultaneous Deposition with Doping of Si Using KrF Excimer Laser, by Koji Sugioka, Hideo Tashiro, Koichi Toyoda, Hideyuki Murakami, and Hiroshi Takai.

Investigation of the Structure and Stability of the Pt/SiC(001) Interface, by V.M. Bermudez and R. Kaplan.

Observation of the Early Stages of Heteroepitaxial Growth of BaTiO_3 Thin Films, by M. Grant Norton and C. Barry Carter.

Oxygen Adsorption and VDR Effect in (Sr, Ca) TiO_{3-x} Based Ceramics, by Yoshitaka Nakano and Noboru Ichinose.

Particle and Grain Size Effects on the Dielectric Behavior of the Relaxor Ferroelectric $\text{Pb}(\text{Mg}_{1/3}\text{Nb}_{2/3}\text{O}_3)_x$, by Philippe Papet, Joseph P. Dougherty, and Thomas R. Shrout.

Phase Formation During Reactive Molybdenum-Silicide Formation, by C.M. Doland and R.J. Nemanich.

Physical Properties of Amorphous Silicon-Carbon Alloys Produced by Different Techniques by A. Carbone, F. Demichelis, G. Kaniadakis, G. Della Mea, F. Freire, and P. Rava.

Preparation of Fine Hollow Spherical NiFe_2O_4 Powders, by Ahmed M. Gadalla and Hsuan-Fu Yu.

Preparation of Fine Ni Particles by Spray-Pyrolysis Technique and Their Film Forming Properties in Thick Film Method, by Kazuro Nagashima, Masayoshi Wada, and Akio Kato.

Preparation of High T_c Tl-Ba-Ca-Cu Oxide Superconducting Filament by Suspension Spinning Method, by Tomoko Goto.

Preparation of $\text{YBa}_2\text{Cu}_3\text{O}_x$ Using Barium Hydroxide Flux, by N. Coppa, A. Kebede, J.W. Schwegler, I. Perez, R.E. Salomon, G.H. Myer, and J.E. Crow.

Refractory Semiconductor of Boron Phosphide, by Y. Kumashiro.

Relative Stabilities of L1_2 and DO_{22} Structures in Ternary MgAl_3 -Base Aluminides, by A.E. Carlsson and P.J. Meschter.

Stoichiometric Effects in Epitaxial $\text{Ba}_{2-x}\text{Y}_{1-x}\text{Cu}_{3-x}\text{O}_{7-d}$ Thin Films on $\text{LaAlO}_3(001)$, by Douglas J. Carlson, Michael P. Siegal, Julia M. Phillips, T.H. Tiefel, and J.H. Marshall.

Texture Development in $\text{Ba}_2\text{YCu}_3\text{O}_{7-x}$ Films from Trifluoroacetate Precursors, by Paul C. McIntyre, Michael J. Cima, Man-Fai Ng, Raymond C. Chiu, and Wendell E. Rhine.

The Structure and Fracture Mode of Rapidly Solidified Pt_3Ga , by C.L. Briant, A.I. Taub, and E.L. Hall.

The Structure of Carbon in Chemically Vapor Deposited SiC Monofilaments, by X.J. Ning, P. Pirouz, K.P.D. Lagerlof, and J. DiCarlo.

Titanium Disulfide Thin Film Prepared by Plasma CVD, by S. Kikkawa, M. Miyazaki, and M. Koizumi.

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- Dr. Werner Lutze, Kernforschungszentrum Karlsruhe, Postfach 3640, D-7500 Karlsruhe, West Germany; telephone 49-7247-824457; fax 49-7247-823927.
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