

When is Enough Too Much?

Elton N. Kaufmann

Or to put it another way, just how many information sources can a topic tolerate before saturation sets in? Coverage of the activities surrounding the new high temperature ceramic-oxide superconductors may help provide an answer. There is a flood of scientific and technical information which properly reflects the frenzied activity in laboratories around the world. Existing media, originally intended for communication between scientists, have been hard pressed to keep pace. Special "high T_c " sections or complete issues have been offered by regular journals. Society meetings* as well as other normally recurring topical conferences have run special sessions which have been oversubscribed and very exciting. In the face of this onslaught of technical reporting, editors and organizers have implemented expediting measures to handle the volume and the pace while attempting to maintain reasonable reviewing standards. *Ad hoc* technical meetings have also been popping up—some with narrow focus and some more general. To the extent that the field is moving rapidly and gaps between regular meetings need filling, these have been useful. To the extent that a small meeting or workshop serves a particular local audience most of whom would otherwise remain uninformed, these too make sense. The meetings produce abstracts and proceedings volumes which can be useful references for a short time. But the combined effect of this deluge of meetings and publications fills our shelves and calendars, making it difficult to stay abreast of the field and to discriminate among the myriad information options.

In the midst of the technical barrage, another vacuum didn't wait long to be filled. Enter the venture capitalists, the entrepreneurs, the economic, science and technology policy makers and analysts—and new heights are being reached by the stacks of newsletters and conference announcements on our desks. The focus of a great many of the corresponding meetings and publications is toward commer-

cialization, forecasting trends for the benefit of business, translating technical advances into investors' terms, and so forth. These interests pursue the most active and prominent scientists in the field. Coupled with the technical events, the speaking circuit is so active that one wonders who's watching the lab.

From a cursory reading of the last four 1987 issues of *High T_c Update* published at Ames National Laboratory one can count: at least 14 new newsletters and magazines focused on the new materials;¹ 11 more preexisting, more general, newsletters now covering this field too;² over 15 special reports, studies, surveys, transcripts, reprint collections, and directories;³ one new and one existing electronic data base;⁴ three new journals and two new journal sections;⁵ three new membership organizations;⁶ and four stand-alone conferences devoted to a nontechnical commercialization focus.⁷ This list would go on if it included printed and videotaped proceedings, materials kits for young and old, etc.

Quality must suffer with so many trying to do so much so fast. Among the rash of technical articles, many have rushed to press in apparent attempts to capture early receipt dates. These have frequently provided inadequate detail to support results. However, a maturing has been discernible lately wherein more complete reproducible work is being reported. It's also time for some self-leveling to occur in the nontechnical sphere. Newsletter prices on a per-character basis are orders of magnitude greater than for technical journals, and registration fees at market-oriented meetings are three to ten times greater than is typical for a technical meeting. Of course the target audience is used to paying high prices—which will eventually be passed along to a customer—but this market can bear only so much. A shaking out will undoubtedly occur and it would serve these ventures well if less hype and fluff and more substance were to appear between their margins and within their sessions.

Surrounding the nuggets of useful information in the nontechnical reports and newsletters is forecasting largely based on concatenation of excerpts from interviews and speeches given by technical and business experts (although areas of expertise seem to get confused at times). In search of copy to fill the page, these publications string together opinions without helping the reader evaluate. As concluded above, many of these new-entry publications will disappear. That forecast is one they ought to emphasize to their subscribers. For now the overall effect of the indiscriminate flood from the purveyors of "high T_c news" combined with the large amount of substantive data arriving from a multitude of sources is dizzying indeed.

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References

1. *Superconductor Update; Let's Levitate; Superconductor News; Superconductivity News; Superconductor Week; Superconductor Flash Report; Superconductor Research, Development and Commercialization Report* (not being published!); *Cambridge Report on Superconductivity; Superconductor Advisory Newsletter; High T_c Update* (source for this list); *Superconductor World Report; Superconductivity World; Supercurrents*; and *Nikkei Superconductors*.
2. *Cold Facts; Strategic Issues; Materials and Processing Report; Inside Energy/with Federal Lands; Electronic Materials Technology News; Rare-Earth Information Center News; New Technology Week; Electronic Chemical News; High-Tech Materials Alert; Advanced Coatings and Surface Technology*; and *Nikkei High Tech Report*.
3. *Research Briefing on High-Temperature Superconductivity* (NAS); *Superconductivity: A Guide to the Corporate Players* (Technical Insights); Reprint Volume from *Phys. Rev. Letters* and *Phys. Rev. B* (APS); *High Temperature Superconducting Materials: The Current Situation* (Japan Materials Report/ASM International); *Superconductive Materials and Devices: A Comprehensive Market Report and Strategic Assessment of Opportunities in the Superconductor Industry* (Business Technology Research); *Comprehensive Study of Starting Materials Used in High T_c Superconductors* (Falmouth Associates, Inc.); *High-Temperature Superconducting Materials: A Business, Technological and Socioeconomic Study* (SRI International); *Strategic Opportunities in Superconductors* (Strategic Analysis, Inc.); *Superconductivity: A Complete Reference Guide* (The Bureau of National Affairs, Inc.); *The*

*including MRS

Superconductivity Directory (Pasha Publications); *A Review of Federal Activities in Superconductivity During 1987* (Inside Energy); *Superconductivity: A Practical Guide for Decision Makers* (Technology Futures, Inc.); *The Superconducting Ceramics Industry: 1987-2002* (Gorham Advanced Materials Institute); and a *Status and Summary Report* [on legislation] (CSAC).

4. Superconductivity Information Systems (OSTI/DOE) and Tech Monitoring (SRI International), respectively.

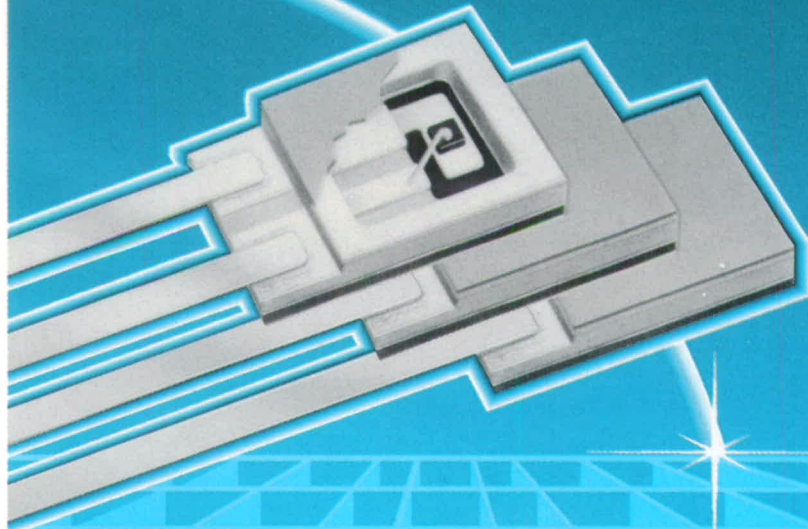
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6. Superconductor Applications Association (El Toro, California); Council on Superconductivity for American Competitiveness (Washington, DC); and World Congress on Superconductivity (Houston, Texas).

7. First Annual Cambridge Conference on Commercial Applications of Superconductivity Technology (January 25-26, 1988, Boston); First Conference on Superconductor Markets (December 15-16, 1987, Boston); *Superconductivity, On Its Way to Industrial Breakthrough* (November 3, 1987, Uppsala); and Federal Conference on Commercial Applications of Superconductivity (July 28-29, 1987, Washington, DC). □

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