

# SCIENCE NEWS®

The Weekly Newsmagazine of Science

A Science Service Publication  
Volume 132, No. 8, August 22, 1987

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Subscription Department  
231 West Center Street, Marion, Ohio 43305

Subscription rate: 1 yr., \$34.50; 2 yrs., \$58.00.  
(Foreign postage \$6.00 additional per year.) Change of  
address: Four to six weeks' notice is required. Please  
state exactly how magazine is to be addressed.  
Include zip code. For new subscriptions only call  
(1) 800-247-2160. Printed in U.S.A. Second class  
postage paid at Washington, D.C., and additional  
mailing offices. Title registered as trademark U.S. and  
Canadian Patent Offices. Published every Saturday by  
SCIENCE SERVICE, Inc., 1719 N St., N.W.,  
Washington, D.C. 20036. (202-785-2255)  
ISSN 0036-8423

## Letters

### Photonic future

In "A new way of making spectral redshifts"  
(SN: 7/11/87, p.22), D.E. Thomsen reviews  
Emil Wolf's identification of spectral redshifts  
in light emissions and experiments by Bocko,  
Douglass and Knox to determine if Wolf's  
theory applies to acoustics as well as optics.  
In the final paragraph, reference is made to  
possible applications in communications  
transmissions, since redshifts would open a  
new method of modulation (coherence relation).

I would venture that this procedure will  
have little practical application in the current  
telecommunications environment. Telecommu-  
nications equipment and transmission faci-  
lities are rapidly shifting from analog to  
digital-based technology due to increased  
quality, reliability and cost efficiencies. With  
digital technology, modulation techniques  
are no longer necessary. Estimates are that

### This Week

- 116 Human Test of AIDS Vaccine Approved
- 116 High-risk sex studied in women, men
- 117 Ride report: The going, not the goal
- 117 Were the supernova's neutrinos pulsed?
- 118 Whale tracking is all up in the air
- 118 Keeping dioxins down in the dumps
- 119 Gene therapy takes aim at liver, lungs

### Research Notes

- 120 Behavior
- 120 Biomedicine
- 121 Chemistry
- 121 Earth Sciences

### Articles

- 122 Follow That Supernova  
Cover: And then there were two. Suddenly last March, Supernova  
1987A acquired a mysterious companion. Here, a computer-  
derived image made by the technique known as speckle  
interferometry shows the supernova and the companion, which  
is a few magnitudes fainter than the supernova and lies about 2  
light-weeks away from it. (Image: Smithsonian Astrophysical  
Observatory)
- 124 Of Judges, Genes and Genetic Engineers



### Departments

- 115 Letters

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within seven years the entire public network  
will be digital.

Wolf's discovery may have some ap-  
plicability in the future when photonic trans-  
mission, equipment and switching are de-  
ployed to replace digital services. Photonic  
transmission facilities (fiber optics) are cur-  
rently being deployed at an escalating rate.  
Bell Labs (AT&T) and others are working on  
wavelength division multiplexing to increase  
the capacity of a single optic fiber as well as  
on equipment such as telecommunication  
switches that act on photons rather than  
electrons.

Greg Smith

Staff Supervisor, Marketing Operations  
Bell Atlantic Network Services, Inc.  
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### Before the butterfly

"Magic butterfly cleans up chips" (SN:  
7/25/87, p.55) was an interesting piece on the  
defects involved in the gettering of transition

metals in silicon. I would like to comment on  
the statement, attributed to J. Lagowski, that  
the butterfly defect is the only gettering  
process that can work on the order of sec-  
onds.

A group of Soviet scientists, led by V.E.  
Borisenko, published in 1982 the first results  
indicating that electrochemically deposited  
silicon could getter metals in seconds during  
rapid thermal annealing. In 1983 a variant of  
this was published in the United States by the  
Materials Research Society. In 1986 D.R.  
Sparks, R.G. Chapman and N.S. Alvi of Delco  
Electronics and Purdue University will pub-  
lish results showing that ion-beam damage  
can also be used to rapidly getter metals. A  
wide variety of rapid gettering techniques  
have been developed in addition to the but-  
terfly defect.

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AUGUST 22, 1987

115