

improvements in optical photo-multiplier technology and associated electronics.

In summary, the future outlook for the new technique seems to be quite bright. It is not being claimed here that the surface Raman scattering technique is destined to solve immediately any specific problem of surface science which may have a great technical importance. What is being said here is that it would become a great analytical technique to study physical processes relevant to surface physics and chemistry, and it is the correct time for any one to enter this exciting field.

1. Raman, C. V., *Indian J. Phys.*, 1928, 2, 387.
2. See, e.g., *The Raman Effect*, Vols 1 and 2, (ed.) A. Anderson, Marcel Dekker, New York, 1971 and 1973.
3. Jeanmaire, D. L. and Van Duyne, R. P., *J. Electroanal. Chem.*, 1977, 84, 1.
4. Fleischmann, M., Hendra, P. J. and McQuilla, A. J., *Chem. Phys. Lett.*, 1974, 26, 163.
5. Hjelmberg, H., Lundqvist, B. I. and Norskov, J. K., *Physica Scripta*, 1979, 20, 192.
6. Hignsberger, M. J., *Adv. Electr. Electron Phys.*, 1981, 56, 291.

7. Jha, S. S. and Woo, J. W. F., *Nuovo Cimento*, 1971, B2, 167.
8. Yamada, H., *Indian J. Pure Appl. Phys.*, 1978, 16, 159.
9. For a recent review of SERS, see, *Surface-enhanced Raman Scattering*, (ed.) R. K. Chang and T. E. Furtak, Plenum New York, 1982.
10. Moskovits, M., *Solid State Commun.*, 1979, 32, 59; Gersten, J. L. and Nitzan, A., *J. Chem. Phys.*, 1980, 73, 3023.
11. King, F. W., Van Duyne, R. P. and Schatz, G. C., *J. Chem. Phys.*, 1978, 69, 4472.
12. Otto, A., *Surface Science*, 1980, 92, 145; Arya, K. and Zeyher, R., *Phys. Rev.*, 1981, B24, 1852.
13. Kirtley, J. R., Jha, S. S. and Tsang, J. C., *Solid State Comm.*, 1980, 35, 509; Tsang, J. C., Jha, S. S. and Kirtley, J. R., *Phys. Rev. Lett.*, 1981, 46, 1044.
14. Jha, S. S., Kirtley, J. R. and Tsang, J. C., *Phys. Rev.*, 1980, B22, 3973; Agarwal, G. S., Jha, S. S. and Tsang, J. C., *Phys. Rev.*, 1982, B25, 2089; Agarwal, G. S. and Jha, S. S., *Phys. Rev.*, (In press).
15. Tsang, J. C., Kirtley, J. R., Theis, T. N. and Jha, S. S., *Phys. Rev.*, 1982, B25, 5070.
16. Sanda, P. N., Walaumont, J. M., Demuth, J. E., Tsang, J. C., Christmann, K. and Bradley, J. A., *Phys. Rev. Lett.*, 1980, 45, 159.
17. Tsang, J. C., Avouris, P. H. and Kirtley, J. R., in *Proc. VIII Int. Conf. on Raman Spectroscopy*, Heyden, London, 1982, 67.

ANNOUNCEMENT

INDIAN NATIONAL SCIENCE ACADEMY MEDALS

The S. N. Bose medal has been awarded to late Dr. M. K. V. Bappu, Director, Indian Institute of Astrophysics, Bangalore, for his outstanding contribution in astronomy and astrophysics.

The J. C. Bose medal has been conferred on Dr. V. Sasisekharan, Indian Institute of Science, Bangalore, for his contribution to polynucleotides and general aspects of macromolecular structure of biological significance.

The S. H. Zaheer medal has been given to Dr. L. K. Doraiswamy, Director, National Chemical Labora-

tory, Pune for his work on application of chemical sciences to technology and industry.

The D. N. Wadia Medal for the year 1982 has been awarded to Dr. W. D. West, Saugar University, for his work in the field of Himalayan Geology, Deccan Basalts, and nappa structure in the Crystallines of Madhya Pradesh.

The B. N. Chopra Lectureship for 1983 has been awarded to Dr. S. Sriramachari, Indian Council of Medical Research, New Delhi, for his outstanding contributions in the field of neuropathology.
