

# Effects of microwave fields on recombination processes in 4H and 6H SiC

Son N.T., Sorman E., Chen W.M., Bergman J.P., Hallin C., Kordina O., Konstantinov A.O., Monemar B., Janzen E., Hofmann D.M., Volm D., Meyer B.K.

Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden; Physik Department E16, Tech. Universatität München, D-85747 Garching, Germany; Department of Physics, University of Hanoi, 90 Nguyen Trai, Hanoi, Viet Nam; Asea Brown Boveri Corporate Research, S-721 78 Västerås, Sweden

**Abstract:** The effects of microwave fields on recombination processes, which are responsible for the optical detection of cyclotron resonance (ODCR) in 4H and 6H SiC epitaxial layers, have been investigated. We present experimental evidence indicating that the dominant mechanism of ODCR in SiC, at low temperatures and in a common range of microwave power (

Year: 1997

Source title: Journal of Applied Physics

Volume: 81

Issue: 4

Page : 1929-1932

Cited by: 1

Link: Scopus Link

Correspondence Address: Son, N.T.; Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden; email: son@ifm.liu.se

ISSN: 218979

CODEN: JAPIA

Language of Original Document: English

Abbreviated Source Title: Journal of Applied Physics

Document Type: Article

Source: Scopus

Authors with affiliations:

1. Son, N.T., Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden, Department of Physics, University of Hanoi, 90 Nguyen Trai, Hanoi, Viet Nam
2. Sorman, E., Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden
3. Chen, W.M., Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden
4. Bergman, J.P., Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden
5. Hallin, C., Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden
6. Kordina, O., Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden, Asea Brown Boveri Corporate Research, S-721 78 Västerås, Sweden
7. Konstantinov, A.O., Dept. of Phys. and Msrmt. Technology, Linköping University, S-581 83 Linköping, Sweden

8. Monemar, B., Dept. of Phys. and Msrmt. Technology, Link?ping University, S-581 83 Link?ping, Sweden
9. Janz??n, E., Dept. of Phys. and Msrmt. Technology, Link?ping University, S-581 83 Link?ping, Sweden
10. Hofmann, D.M., Physik Department E16, Tech. Universat?t M?nchen, D-85747 Garching, Germany
11. Volm, D., Physik Department E16, Tech. Universat?t M?nchen, D-85747 Garching, Germany
12. Meyer, B.K., Physik Department E16, Tech. Universat?t M?nchen, D-85747 Garching, Germany

References:

1. Baranov, P.G., Veshchunov, Yu.P., Zhitnikov, R.A., Romanov, N.G., Shreter, Yu.G., (1977) JETP Lett., 26, p. 249
2. Romestain, R., Weisbuch, C., (1980) Phys. Rev. Lett., 45, p. 2067
3. Godlewski, M., Chen, W.M., Monemar, B., (1994) CRC Crit. Rev. Solid State Mater. Sci., 19, p. 241. , and references therein
4. Weman, H., Godlewski, M., Monemar, B., (1988) Phys. Rev. B, 38, p. 12525
5. Manenkov, A.A., Milyaev, V.A., Mikhailova, G.N., Smolin, S.P., (1972) JETP Lett., 16, p. 322
6. Moll, A., Wetzel, C., Meyer, B.K., Omling, P., Scholz, F., (1992) Phys. Rev. B, 45, p. 1504
7. Ashkinadze, B.M., Belkov, V.V., Krasinskaya, A.G., (1990) Sov. Phys. Semicond., 24, p. 555
8. Booth, I.J., Schwerdtfeger, C.F., (1985) Phys. Status Solidi B, 130, p. 749
9. DeLong, M.C., Viohl, I., Ohlsen, W.D., Taylor, P.C., Olson, J.M., (1991) Phys. Rev. B, 43, p. 1510
10. Son, N.T., Kordina, O., Konstantinov, A.O., Chen, W.M., S??rman, E., Monemar, B., Janz??n, E., (1994) Appl. Phys. Lett., 65, p. 3209
11. Son, N.T., Chen, W.M., Kordina, O., Konstantinov, A.O., Monemar, B., Janz??n, E., Hofmann, D.M., Meyer, B.K., (1995) Appl. Phys. Lett., 66, p. 1704
12. Volm, D., Meyer, B.K., Hofmann, D.M., Chen, W.M., Son, N.T., Persson, C., Lindefelt, U., Janz??n, E., (1996) Phys. Rev. B, 53, p. 15409
13. Son, N.T., S??rman, E., Chen, W.M., Kordina, O., Monemar, B., Janz??n, E., (1994) Appl. Phys. Lett., 65, p. 2687
14. Tamura, H., (1972) Solid State Commun., 10, p. 297
15. Madelung, O., (1982) Landolt-B??rnstein, 17 A, p. 135. , Springer, Berlin
16. Ashkinadze, B.M., Belkov, V.V., Krasinskaya, A.G., (1990) Sov. Phys. Semicond., 24, p. 555