International Semiconductor Conference
CAS'98 Proceedings
6-10 October 1998, Sinaia, Romania
(Cat. No. 98TH8351)

Raman and Hall-effect characterization of Zn/sup +//P/sup +/ co-implanted GaAs subjected to rapid thermal annealing

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https://doi.org/10.1109/SMICND.1998.732294

Abstract

It is shown that Zn/sup +//P/sup +/ co-implantation in combination with rapid thermal annealing (RTA) allows one to obtain p-type GaAs layers with the peak hole concentration as high as 2.10/sup 19/ cm/sup -3/ and narrow impurity profile within 0.15 /spl mu/m.

References

1. G. Langren and W. H. van Berlo, "Extrely high hole concentration in GaAs by Dual Mg/As implants", J. Appl. Phys., vol. 63, pp. 2783, 1988.

2. S. I. Radautsan, A. I. Terletsky, I. M. Tiginyanu, V. V. Ursaki, C. Cobianu, D. Dascalu, et al., "Zn+/As+ and Zn+/Ar+ co-implantation in GaAs single Crystals", 16 CAS Proceedings, pp. 465, 1993.

3. S. I. Radautsan, A. I. Terletsky, I. M. Tiginyanu, V. V. Ursaki, V. M Ichizli, C. Cobianu, et al., "Raman characterization of Zn+ implanted GaAs single crystals co-implanted with As+ and Ar+ ions", 17th CAS Proceedings, pp. 247, 1994.

4. V. V. Ursaki, V. M. Ichizli, I. M. Tiginyanu, A. I. Terletsky, Y. I Caluja and S. I. Radautsan, "Raman scattering study of Zn+/P+ co-implanted GaAs single crystals", 18th CAS Proceedings, pp. 99, 1995.