

NUMERICAL SIMULATION OF ELECTRON EMISSION FROM SILICON NANOSTRUCTURE SURFACE

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Introduction

The numerical simulation of electron processes in silicon nanostructures became an important part of production technology of modern and future electron devices [1].

1 Problem formulation and numerical technique

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$$\frac{\partial n}{\partial t} = \text{div}(D_n \nabla n - \mu_n n \varphi) + G_n - R_n, \quad (1)$$

2 Parallel realization and simulation results

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Table 1. The computation parameters.

Anode potential range, V	Structure length, nm	Materials	Temperature, K
0.1-10	50	Si/SiO ₂	300

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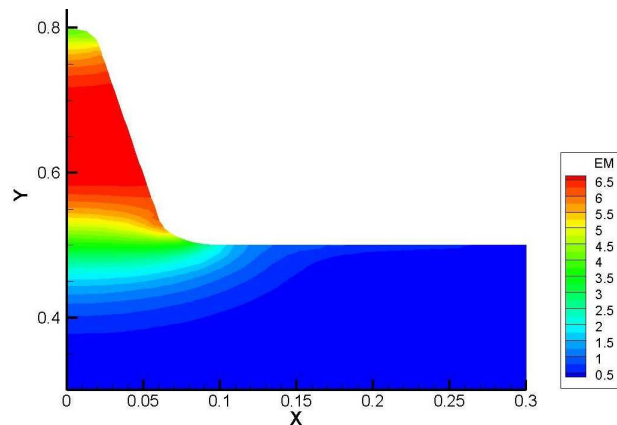


Figure 1. The distribution of modulus of electric field near cathode edge.

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Conclusion

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References

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