OAK RIDGE NATIONAL LABORATORY

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Nano/Micro Vacuum Triodes Using Glass Fiber Drawing Methods

Disclosure Number

200902231

Technology Summary

A new method for fabricating ultraminiature vacuum field emission amplifiers has been developed. The method permits diode, triode, tetrode, pentode, and other gate configurations to be made. The devices are capable of operating at high temperatures (greater than 500 C) and in high radiation environments. Arrays of large numbers of devices can be made on a single substrate. The fabrication process is extendable to high commercial production volumes. Very high packing densities are possible, which makes complex circuitry possible in a small footprint.

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