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## Field Emitter Arrays for Chemical and Biological Warfare Applications

Problematic of many of the current schemes for biological and chemical defense (BWD and CWD) is that both defense systems are specific to certain chemicals or pathogens. Schemes that provide a more general defense, such as high temperature catalytic oxidation or RF plasma oxidation, require a large amount of energy and can produce harmful side-products. Required is a defense system that can render harmless a large number of pathogens or compounds without producing harmful side-products. When used for military applications, the system must be portable and power efficient to allow implementation on individual soldiers and small vehicles. We propose to employ high electric fields and electron flux densities generated by field emission arrays for BWD and CWD defense systems. Additionally, the chemistry of complex molecules in very high electric fields and high electron flux densities is expected to permit the exploration of reaction channels which are otherwise unavailable at typical thermal energies.

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