

NONEQUILIBRIUM PLASMA CHEMISTRY

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Abstract

Application of strongly nonequilibrium plasma in intensification of chemical reactions is considered. It is shown that both a plasma-beam discharge and plasma centrifuge can be used to design very efficient plasma-chemical reactors. In the case of the plasma-beam discharge the instability leads to strong heating of the plasma electrons which, in turn, cause efficient dissociation of the molecules. Spatial separation of the plasma centrifuge dissociation products in the plasma centrifuge facilitates its fixation.