

ESTIMATION OF KINETIC ORDER OF HETEROGENEOUS RECOMBINATION IN LAMINAR FLAME ZONE

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The work was intended to the consideration of possible mechanisms of heterogeneous recombination of atoms and radicals on the surface of solid particles; namely – Rideal and Hinshelwood schemes. Steady state concentrations method was used. Numerical values of kinetic order of the recombination were estimated. Rideal mechanism with first kinetic order was found to be the most likely mechanism of heterogeneous process under consideration. A conclusion was made that in the flame zone heterogeneous recombination is not controlled by diffusion flow of atoms and radicals towards the surface of solid particles.

Keywords: heterogeneous recombination, kinetic order,
Rideal and Hinshelwood mechanisms