

SIMULATION OF THE CO OXIDATION REACTION
ON THE SURFACE OF METALS OF THE PLATINUM
GROUP AND THE CREATION OF EFFICIENT
CATALYSTS FOR THE NEUTRALIZATION
OF AUTO EXHAUSTS

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S u m m a r y

We present the results of complex experimental and theoretical studies of the catalytic reaction of oxidation of CO on metals of the platinum group (Pt, Pd). A microscopic model is developed, and the catalytic oxidation of CO on the Pt(111) surface is elucidated. We have determined the regions of existence for a collection of stationary states (which are revealed as hysteresis effects in the kinetics) for the oxidation of CO on model Pd-containing catalysts and have determined the parameters describing the dynamical peculiarities of the process. On the basis of the obtained results, the new-generation catalysts are fabricated for the purification of gas ejections of the industry and automobiles.