

## АНАЛИЗ ЛИТЕРАТУРНЫХ МОДЕЛЕЙ ОКИСЛЕНИЯ МЕТАНА В ОБЛАСТИ УМЕРЕННЫХ ТЕМПЕРАТУР\*

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**Аннотация:** Интерес к парциальному окислению метана в области умеренных температур ниже 1000 К связан с его ролью в перспективных процессах прямого превращения газофазных углеводородов в химические продукты, прежде всего в процессе парциального окисления метана в метанол (ПОММ). Оптимизация и технологическая проработка этих процессов требуют надежной кинетической модели. Представлен анализ литературных моделей, применявшихся для описания парциального окисления метана в различных условиях и температурных диапазонах, и результаты их предварительного тестирования на пригодность для описания процесса ПОММ.

**Ключевые слова:** природный газ; метан; парциальное окисление; метанол; формальдегид; оксигенаты

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# ANALYSIS OF LITERATURE MODELS OF OXIDATION OF METHANE AT MODERATE TEMPERATURES

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**Abstract:** The interest to the partial oxidation of methane at moderate temperatures below 1000 K is explained by its role in the promising processes of direct conversion of gas-phase hydrocarbons into other chemical compounds, first of all, in the process of Direct oxidation of Methane To Methanol (DMTM). The optimization and technological development of such processes need a reliable kinetic model. This study presents the critical analysis of published models that have been used for simulating partial oxidation of methane at different conditions and temperature ranges and the results of their preliminary testing in terms of their capability to describe the DMTM process.

**Keywords:** natural gas; methane; partial oxidation; methanol; formaldehyde; oxygenates

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