

1

## A Preliminary Study of the Plasma Pyrolysis of Waste Tyres

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**摘要** Thermal plasma pyrolysis of waste tyres for recovering energy was performed in a nitrogen plasma reactor. The main gaseous products were identified by chromatography as H<sub>2</sub>, CO, CH<sub>4</sub>, C<sub>2</sub>H<sub>2</sub> and so on. From a series of experiments, the effects of the process parameters of thermal plasma pyrolysis were investigated. Under our experimental conditions with steam injection, the total contents of H<sub>2</sub> and CO reached up to 38.3% in the gas product, C<sub>2</sub>H<sub>2</sub> up to 4%, and the maximum calorific value of the pyrolysis gas was 8.96 MJ/m<sup>3</sup>. The results indicate that plasma-assisted thermal decomposition of waste tyre particles may be a useful way for recovering energy and useful chemicals.

**关键词** [thermal plasma](#) [pyrolysis](#) [waste tyres](#) [waste recycling](#)

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