

WRITING A SCIENTIFIC RESEARCH ARTICLE



ARTICLE. *format is :*

TITLE

AUTHORS

ABSTRACT

INTRODUCTION

MATERIALS AND METHODS

RESULTS

TABLES AND GRAPHS

✓DISCUSSION& Conclusion

✓REFERENCES (LITERATURE CITED)

ARTICLE.

Conclusions

What is it?

- A conclusion is the last paragraph in your research paper, or the last part in any other type of presentation.

ARTICLE.

Conclusions:

The primary purpose of the review should be to present information, rather than to offer advice or recommendations. The Authors' conclusions should be succinct and drawn directly from the findings of the review so that they directly and obviously reflect the main results.



ARTICLE.

1. *Highlight the most significant results, but don't just repeat what you've written in the Results section. How do these results relate to the original question? Do the data support your hypothesis?*



ARTICLE.

- Are your results consistent with what other investigators have reported? If your results were unexpected, try to explain why.
- What further research would be necessary to answer the questions raised by your results? How do your results fit into the big picture?



ARTICLE.

3d modeling high temperature flows in the combustion chambers of the power plants

Conclusion

This article has been developed optimal combustion technology of high-energy fuel and the best design parameters of the combustion chamber of the boiler BKZ-420 of the Almaty TPP-2 that improve the durability of the power equipment and reduce the emissions of harmful substances into the atmosphere. The proposed Ekibastuz coal combustion technology reduces the temperature of the furnace wall, opposite the burners on the 3000 °C, that is to 17.24%, and also reduces the average carbon monoxide concentration CO at the outlet of the furnace up to 15%, carbon dioxide CO₂ – 4.65%, and nitrogen dioxide NO₂ – 14%.

The concentration of carbon monoxide can be reduced due to an increase in the excess air ratio in the combustion chamber and the high temperatures in it. However, increase in temperature in the combustion chamber invariably leads to increased formation of nitrogen oxides NO_x (NO and NO₂), which are recognized at the present time, the most toxic environmental pollutants. 90% of the total amount of nitrogen oxides is nitrogen monoxide NO, which is further oxidized to NO₂. The NO_x cause acidification of atmospheric precipitation contribute to photochemical air pollution and the thinning of the ozone layer. Reducing the concentration of nitrogen oxides NO_x, generated by combustion of coal is one of the main tasks in the

development and operation of power devices [14-16].

During the flow rate of the additional air equal 10 kg/s at the outlet of the combustion chamber the concentration of carbon dioxide CO₂ 4.65% is less than a flow rate of air 5kg/s, which corresponds to a maximum permissible standards adopted for TPP. So, we can conclude that the second case of combustion of fuel when the flow rate of additional air through the holes in the wall of the combustion chamber which located opposite the burner units is 10 kg / s, provide optimal combustion mode.

The results have scientific value and provide more insight into the mechanism of turbulent combustion of pulverized coal in the combustion chambers of power plants, which in turn contributes to the solution of fundamental problems of modern thermal physics, Macrokinetics, the theory of combustion explosion.

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REFERENCE

□ In the text, you must cite all the scientific publications on which your work is based. But do not over-inflate the manuscript with too many references – it doesn't make a better manuscript.

ARTICLE.

Minimize personal communications, do not include unpublished observations, manuscripts submitted but not yet accepted for publication, publications that are not peer reviewed, grey literature, or articles not published in English.

ARTICLE.

- Make the reference list and the in-text citation conform strictly to the style given in the Guide for Authors. Remember that presentation of the references in the correct format is the responsibility of the author, not the editor.

ARTICLE.

Finally, check the following:

- Spelling of author names
- Year of publications
- Usages of "et al."

Punctuation

- Whether all references are included

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3d modeling high temperature flows in the combustion chambers of the power plants

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82 3D modeling high temperature flows in the combustion chambers of the power plants

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