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INFLUENCE OF HIGH OXYGENATED BIOFUELSON MICRO GAS TURBINE ENGINE FOR REDUCED EMISSION

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Annotation:
In this article describes ways to Influence of high oxygenated biofuelson micro gas turbine engine for reduced emission

Key words: Aircraft Engineering, gas turbine, mechanics Relevance.

This article presents opinions on the movement of liquids based on comparative, scientific, critical, analytical, logical, sequential, impartial methods. The purpose of this paper is to look into how additives in Jet-A fuel blends affect performance, combustion, and emission characteristics in particular. Plan/system/move toward Stream A fuel was shaped by utilizing Kay's and Gruenberg-Nissan blending rules by adding added substance glycerol with TiO 2. The fuel's oxygen content and atomization are the most important considerations when measuring combustion performance. As a result, additives were added to the Jet-A fuel in varying proportions. For the purposes of the tests, a small gas turbine engine was utilized. G10T (glycerol 10% with 50 ppm TiO 2 and Jet-A 90%), G20T (glycerol 10% with 50 ppm TiO 2 and Jet-A 90%), and G30T (glycerol 10% with 50 ppm TiO 2 and Jet-A 90%) were all tested under a variety of load conditions. Discoveries From tests, the G20T and G10T created improved results than different mixes. Compared to pure Jet-A fuel, the thermal efficiency of the blends of G20T and G10T is 22% and 14% higher, respectively. Further, the superior static push with less fuel utilization was seen in G20T fuel mix. Originality and value The G20T fuel blends performed better because they contained more oxygenated compounds. Additionally, compared to the pure Jet-A fuel, the emission rate of environmentally harmful gases like NOx, CO, and HC was lower. The findings make it abundantly clear that the rate of energy destruction in the combustion chamber is higher than in the other components of the

fuel. The use of biorenewable alternative fuel resources such as biofuels (such as ethanol or biodiesel) has produced promising solutions for lowering some harmful emissions of greenhouse gases (GHGs) from gas turbine engines (GTEs). Regardless of the decreased hydrocarbon related with taking on elective bio-sustainable fuel assets, GTE tasks actually radiate harmful gases because of wasteful motor execution. In order to address performance, fuel consumption, and GHG emission reduction limitations, we evaluate the impact of the integration of plasma combustion technology on a micro-GTE that uses biodiesel fuel derived from animal fat. Research center plan, manufacture, get together, testing, and results assessment were directed at Kuwait's Public Expert for Applied Instruction and Preparing. The outcome demonstrates the least poisonous emanations of sulfur, nitrogen oxide (NO), NO2, and CO were from the biodiesel mixed energizes. The superior warm effectiveness of GTE biodiesel because of the volume of hydrogen plasma infused further develops the motor's general burning productivity. As a result, the firing temperatures of the compressor's inlet and outlet rise by 6.1 °C and 13.3 °C, respectively. For the highest loading condition, Plasma technology produced a thrust increase of 0.2 kgf, which reduced fuel costs and had a significant impact on horsepower and GTE engine efficiency.

List of used literature:

1. https://www.journaltocs.ac.uk/index.php?action=tocs&journalID=451&high=1&ps=30&page=1&pageb=&publisherID
2. Turgunova, F., & Abdurahimovna, R. S. (2023). PROBLEMS IN INCREASING PUBLIC VOICE SKILLS AND WAYS TO SOLVE THEM. Журнал иностранных языков и лингвистики, 5(5).
3. Turgunova, F., & Abdurahimovna, R. S. (2023). RESEARCH ON THE LEVEL OF QUALITY OF PRESCHOOL EDUCATION AND THE DEVELOPMENT OF TRENDS IN INTERNATIONAL EXPERIENCE. Журнал иностранных языков и лингвистики, 5(5).
4. Turgunova, F., & Abdurahimovna, R. S. (2023). THE IMPORTANCE OF PROJECT WORK AND METHODS OF WORK IN TEACHING ENGLISH. Журнал иностранных языков и лингвистики, 5(5).
5. Turgunova, F., & Abdurahimovna, R. S. (2023). THE USE OF OLD AND NEW METHODS OF TEACHING ENGLISH. Журнал иностранных языков и лингвистики, 5(5).

6. Turgunova, F., & Abdurahimovna, R. S. (2023). INTERACTIVE TEACHING METHODS IN ENGLISH CLASSES. Журнал иностранных языков и лингвистики, 5(5).
7. Turgunova, F., & Abdurahimovna, R. S. (2023). PROBLEMS AND SOLUTIONS IN LEARNING ENGLISH. Журнал иностранных языков и лингвистики, 5(5).
8. Turgunova, F., & Abdurahimovna, R. S. (2023). WAYS TO INCREASE STUDENTS'MOTIVATION IN ENGLISH CLASSES. Журнал иностранных языков и лингвистики, 5(5).
9. Turgunova, F., & Abdurahimovna, R. S. (2023). ADVANTAGES AND DISADVANTAGES OF ONLINE EDUCATION PROBLEM AND SOLUTION. Журнал иностранных языков и лингвистики, 5(5).
10. Rustamova, S. (2023). WAYS TO CREATE A POSITIVE ENVIRONMENT FOR FOREIGN LANGUAGE TEACHING. Журнал иностранных языков и лингвистики, 5(5).
11. Rustamova, S. (2023). METHODS OF IMPROVING AND DEVELOPING READING SKILLS. Журнал иностранных языков и лингвистики, 5(5).
12. Rustamova, S. (2023). PROBLEMS AND SOLUTIONS TO ENGLISH TEACHING. Журнал иностранных языков и лингвистики, 5(5).
13. Rustamova, S. (2023). METHODS OF TEACHING AND LEARNING ENGLISH IN SCHOOL AND SOLUTIONS TO PROBLEMS. Журнал иностранных языков и лингвистики, 5(5).
14. Rustamova, S. (2023). CLASS ENVIRONMENT: GROUP AND INDIVIDUAL PERFORMANCE METHODS. Журнал иностранных языков и лингвистики, 5(5).
15. Rustamova, S. (2023). METHODS OF USING LANGUAGE GAMES IN FOREIGN LANGUAGE TEACHING AND INCREASING PUPILS'TALKING SKILLS. Журнал иностранных языков и лингвистики, 5(5).
16. Rustamova, S. (2023). TRANSLATION PROBLEMS AND SOLUTIONS. Журнал иностранных языков и лингвистики, 5(5).
17. Rustamova, S. (2023). RESEARCH OF THE FEATURES OF TOURISM DEVELOPMENT AND ITS TERMINOLOGY. Журнал иностранных языков и лингвистики, 5(5).
18. Rustamova, S. (2023). LEARNING A FOREIGN LANGUAGE DEVELOPS TO LERANCE. Журнал иностранных языков и лингвистики, 5(5).

19. Rustamova, S. (2023). EDUCATIONAL SYSTEM FOR THE DEVELOPMENT OF CREATIVE SKILLS OF UPPER-CLASS STUDENTS IN THE PROCESS OF OUT-OF-CURRICULUM STUDIES OF HISTORICAL AND CULTURAL MONUMENTS OF UZBEKISTAN. Журнал иностранных языков и лингвистики, 5(5).