



ISHLANGAN GAZLARNI ZAHARSIZLANTIRISH USULLARI

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Yer yuzida keyingi yillarda energetik va ekologik muammolarning ortib borayotganligi mutaxassis- olimlarni jiddiy tashvishga solmoqda. Bunga asosiy sabab- iqtisodiy taraqqiyot maqsadlarida energiyadan foydalanishning meyoridan ortib ketishidir. Keyingi qirq yil ichida insoniyatning butun tarixi davomida qazib olingan organik yonilg'idan ham ko'proq yonilg'i qazib olingan. Har yili ishlab chiqarish va ishlatish hisobiga neft, tabiiy gaz, ko'mir, uran kabi tabiiy boyliklar zaxirasi shiddatli tarzda kamayishi insoniyatni jiddiy tashvishga solmoqda. Transport vositalarida keng qo'llanilayotgan neft va tabiiy gaz yonilg'ilari bugunga kunga kelib nafaqat ayovsiz sarflanmoqda, balki ularni yoqish natijasida ajralib chiqayotgan ishlangan gazlar tarkibidagi zaharli moddalar aholi va atrof- muxitni ayovsiz zaharlamoqda [1,2]. Mahlumki, transport vositalarida qo'llanilayotgan yonilg'ilar ichki yonuv dvigatellarning silindrlarida to'la yonganida atrof- muxitga xech qanday zaharli moddalar ajralib chiqmas edi, lekin hozirgi kunda ko'chalarda harakatlanayotgan transport vositalarining aksariyatida yonilg'ilar to'la yondirilmay tashqariga chiqarib yuborilmoqda. Natijada ularning so'ndirgichlaridan 200 xildan ortiq zaharli moddalar ajralib chiqmoqda va ular qozonxona, zavod- fabrikalarning quvurlaridan ajralib chiqayotgan ishlangan gazlardan bir necha o'n marta ko'proq bo'lmoqda. Shuning uchun transport vositalarida yonilg'ini to'la yondiradigan, ekologik toza va arzon energiya manbasidan foydalanish- hozirgi dunyo oldida turgan eng muhim muammolardan biridir. Bugungi kunda neft va benzin narxining tobora oshib borayotganligi sababli yonilg'idan samarali foydalanishni taqozo etadi. Buning uchun dvigatellarga kirayotgan yonilg'i va havo aralashmasi tarkibini yaxshilash kerak bo'ladi. Buning natijasida yonilg'i sarfini ham, ishlangan gazlar zaharlilini kamaytirishga erishamiz. Transport vositalaridan chiqarilayotgan ishlangan gazlar tarkibidagi birikmalarning zaharliligi bo'yicha joriy va istiqbolli standartlarga rioya qilishdagi eng katta qiyinchiliklar NOx emissiyasining kamayishi, ishga tushirish, isitish va bo'sh rejimlarda- CH va CO chiqindilarining pasayishi bilan bog'liq [3,4]. Transport vositalaridan chiqarilayotgan ishlangan gazlar tarkibidagi zaharli birikmalarni miqdorini kamaytirish uchun quyidagi choralar tavsiya etiladi:

- Dvigatelning konstruktsiyasini takomillashtirish va birinchi navbatda, yonish kamerasini, ta'minlash va o't oldirish tizimlarini tashkil etuvchi qismlarni qayta loyihalash.





- Tetraetil qo'rg'oshin miqdori past bo'lgan benzinlardan foydalanish, gazsimon yoqilg'i va vodorod yonilg'ilariga o'tish.
- Ishlangan gazlarning retsirkulyatsiyasi.

Agar ishlangan gazlarni zaharsizlantirish tizimidan ishlangan gazning bir qismi kiritish kollektoriga yo'naltirish evaziga yonish mahsulotlarining nisbatan yuqori issiqlik sig'imi bilan ta'minlash va NO_x hosil bo'lishini kamaytirish. Institutda bu yo'nalishlar bo'yicha ishlar olib borilmoqda va ularni joriy etish natijasida yuqori texnik, iqtisodiy va ekologik samaradorlikka erishilmoqda. Masalan, asosiy yonilg'iga alternativ yonilg'i-Braun gazini 5-6 % qo'shish evaziga benzin yonilg'isining sarfini 30-35 %, dizel yonilg'isining sarfini 25-30 % va siqilgan gaz sarfini 15-20 % ga kamaytirishga erishildi. Shuningdek, ishlangan gazlarning tarkibidagi uglerod oksidi (CO)ning miqdori o'rtacha 60-70 % va yonmagan uglevodorodlarning miqdori 40-50 % ga kamaydi [5,6].

Adabiyotlar

1. “Результаты испытания электролизера” Journal of New Century Innovations 17(1),119-120. DOI - 10.32743/UniTech.2021.87.6.11860 Retrieved from <http://www.newjournal.org/index.php/new/article/view/876> Nasirov Ilxam Zakirovich zav. kafedroy “Organizatsiya perevozok i transportnaya logistika” Andijanskogo mashinostroitel'nogo instituta, Respublika Uzbekistan, g. Andijan E-mail: nosirov-ilhom59@mail.ru Raxmonov Xurshidbek Nurmuxammad ugli doktorant Andijanskogo mashinostroitel'nogo instituta, Respublika Uzbekistan, g. Andijan Kuzibolaeva Dilnoza Tuxtasinovna doktorant Andijanskogo mashinostroitel'nogo instituta, Respublika Uzbekistan, g. Andijan 2022 yil Xalqaro jurnal
2. “Ichki yonuv dvigatellarining energetik va ekologik ko'rsatkichlarini yaxshilash.” T.f.n, dotsent, Nasirov I.Z Qo'zibolaeva D.T, Jurnal-Research and education issn.Stranitsy-2181-3191.[TSitiruetiya: 5](#) 30.10.2022yil.
3. “Analysis of Automobile Mufflers” Nasirov Ilham Zakirovich - candidate of technical sciences, associate professor; Kuzibolaeva Dilnoza Tukhtasinovna- doctoral student. Abbasov Saidolimkhon Zhaloliddin ugli- doctoral student; Andijan Machine-Building Institute, UzbekistanTexas Journal of Engineering and Technology ISSN NO: 2770-4491 <https://zienjournals.com> Date of Publication:07-01-2023 Peer Reviewed International Journal [37-40] Volume 16
4. “Ekologicheskie preimushchestva ispol'zovaniya otxodov” Nasirov Ilxam Zakirovich dotsent, zaveduyiy kafedroy; Abbasov Saidolimxon Jaloliddin o'g'li doktorant; Kuzibolaeva Dilnoza Tuxtasinovna doktorant.Andijanskiy mashinostroitel'nyy institut Respubliki Uzbekistan, g. Andijan Mejdunarodnyy nauchnyy jurnal № 7 (100), chast' 1 «Novosti obrazovaniya: issledovanie v XXI veke» fevral', 2023g
5. “New Approaches To Cleaning Exhaust Gases Of Internal Combustion Engines” Ilkham Z. Nasirov*, Dilnoza T. Kozibolaeva, Saidolimkhon Z. Abbasov Andijan Machine-



Building Institute, Andijan, Uzbekistan *E-mail: nosirov-ilhom59@mail.ru Texas Journal of Engineering and Technology ISSN NO: 2770-4491 <https://zienjournals.com> Date of Publication: 08-06-2023 Peer Reviewed International Journal [46-49] Volume 21

6. “Ichki yonuv dvigatellari so'ndirgichlaridan chiqadigan ishlangan gazlarni zararsizlantirish usullarini ishlab chiqish.” Nasirov Ilxam Zakirovich- t.f.n., dotsent Qo'zibolayeva Dilnoza To'xtasinovna Abbasov Saydolimxon Jaloliddin o'g'li Andijon Mashinasozlik instituti. Tayanch doktoranti T A D Q I Q O T L A R jahon ilmiy – metodik jurnali 21-son_1-to'plam_Sentabr-2023 <http://tadqiqotlar.uz/>

7. “Development of a method for deoxygenation of processed gases emitted from internal combustion engine absorbers” Qo'zibolayeva Dilnoza To'xtasinovna Doctoral student of Andijan Mechanical Engineering Institute International Journal Of Scientific Researchers VOLUME 4, ISSUE 2, 20. <https://worldlyjournals.com/index.php/IJSR/article/view/1026> 2024.

8. “Determination of the total concentration of exhaust gases released during the movement of vehicles” Kozibolayeva Dilnoza Tokhtasinovna Doctoral student of Andijan Mechanical Engineering Institute. Ethiopian International Journal Of Multidisciplinary Research eISSN: 2349-5715 pISSN: 2349-5707 Volume: 11, Issue 03, March-2024 SJIF 2019: 4.702 2020: 4.737 2021: 5.071 2022: 4.919 2023: 6.980 2024: 7.662 <https://www.eijmr.org/index.php/eijmr/>

9. “Avtotransport vositalarining atrof-muhitga zararli ta'sirini aniqlash” IJODKOR O'QITUVCHI JURNALI 5 APREL / 2024 YIL / 38 – SON 141 Qo'zibolayeva Dilnoza To'xtasinovna- tayanch doktorant, Ilmiy raxbar: Nasirov Ilham Zakirovich- t.f.n., prof. Andijon Mashinasozlik Instituti.

10. “Alternative energy: problems and prospects of use” Nasirov Ilham Zakirovich- Professor of the Department Abbasov Saidolimxon Jaloliddin ugli- Doctoral student Qozibolayeva Dilnoza Toxtasinovna- Doctoral student Andijan Engineering Institute of the Republic of Uzbekistan, Andijan Oriental journal of academic and multidisciplinary ISSN 3030-3079 RESEARCH “Innovative World” Scientific Research Support Center www.inno-world.uz Volume 2 Issue 5 | June 2024 | Page | 4

11. “Transport vositalaridan chiqarilayotgan zaharli gazlar koeffitsientining o'sishi” UDC: 656+504 D. Qo'zibolayeva 1, I. Nasirov 1 Andijon mashinasozlik instituti, Andijon, Uzbekistan 2024 y. 20-sentabrda yuborilgan; 2024 y. 25-noyabrda chop etishga qabul qilingan Zaxiriddin Muxammad Bobur nomidagi Andijon davlat universiteti ilmiy xabarnoma. Fizika-matematika tadqiqotlari

12. “Avtomobil so'ndiruvchisidan chiqadigan zaharli gazlarni bartaraf etish” Nasirov Ilham Zakirovich- t.f.n., prof. Qo'zibolayeva Dilnoza To'xtasinovna- tayanch doktorant. Andijon mashinasozlik instituti, Andijon sh., O'zbekiston Oriental journal of academic and multidisciplinary research “Innovative World” Scientific Research Support Center www.innoworld.net Volume 2 Issue 7 | 2024 |



13. “Avtomobilning so’ndirgichlarini ta’irlash usullari” Nasirov Ilham Zakirovich- t.f.n., prof. Qo’zibolaeva Dilnoza To’xtasinovna- tayanch doktorant. Andijon mashinasozlik instituti, Andijon sh., O’zbekiston Ilg’or pedagog respublika ilmiy jurnali 2024 1-JILD 1-SON

14. “Achieving reduction in toxic gases by improving the onix car's muffler.” “Ekonomika sotsium” elektronnoe periodicheskoe izdanie ISSN2225-1545 №9(76)-2020 Quzibolaeva Dilnoza Tokhtasinova- doctoral student, Nasirov Ilham Zakirovich- professor, Andijan State Technical Institute Republic of Uzbekistan, Andijan region 2025 yil 2-aprel

15. “Andijon viloyatida atmosfera havosini ifloslanishining tahlili” I.Z.Nasirov t.f.n., professor, D.T.Qo’zibolayeva taynch doktorant, Andijon mashinasozlik instituti Mejdunarodnyy nauchnyy jurnal № 30 (100), chast’ 1 «Novosti obrazovaniya: issledovanie v XXI veke» Fevralya, 2025 g

16. ““Oniks” avtomobili uchun takomillashtirilgan so’ndirgich“Nasirov Ilham Zakirovich T.f.n., prof. Qo’zibolaeva Dilnoza To’xtasinovna Tayanch doktorant Andijon mashinasozlik instituti, Andijon sh., O’zbekiston So’ngi ilmiy tadqiqotlar nazariyasi respublika ilmiy-uslubiy jurnali 7-JILD 12-SON 13.12.2024

17. “O’zbekiston sharoitida transport vositalaridan chiqarilayotgan zaharli gazlar koefitsientining o’sishi” Development of science Volume 2UDC:656+504 Qo’zibolayeva Dilnoza To’xtasinovna Andijon mashinasozlik instituti, transport logistikasi kafedrası, texnika fanlari falsafa doktori (PhD) E-mail: dqozibolayeva@gmail.com Telefon: +998 91 617 24 72 Nasirov Ilham Zakirovich Andijon mashinasozlik instituti transport logistikasi fakulteti, transport logistikasi kafedrası dotsenti E-mail: nosirov-ilhom59@mail.ru Telefon: +998 91 484 67 50 ISSN 3030-3907 APREL 2025/ 4