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热能动力工程教研室
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时间: 2022-03-03 来源:



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教育背景

2008 中国科学院技术大学国家同步辐射实验室, 博士

工作经历

2013~至今 中国科学院工程热物理研究所 研究员/博导, 中国科学院大学 教授/博导
2019~至今 华北电力大学吴仲华学院 兼职导师
2013 德国比勒费尔德大学 助理研究员
2011~2013 德国比勒费尔德大学 课题组长
2010~2012 德国比勒费尔德大学 洪堡学者
2008~2010 法国南锡大学 CNRS博士后

学术兼职

《Journal of Thermal Science》副主编
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研究方向

燃烧学; 能源有序转化; 催化燃烧; 微重力燃烧

科研项目

1. 化石燃料燃烧与绿色利用, 科技部重点研发计划课题, 2017-2022;
2. 芳烃燃烧反应动力学研究, 科技部“中法杰出青年科研人员交流计划”, 2018;
3. 航空模型燃料燃烧研究, 洪堡研究合作计划, 2016-2018;
4. 生物航空燃料低温氧化研究, 国家自然科学基金重大研究计划培育项目, 2016-2018;
5. 正丙苯及异构体的层流预混火焰研究, 国家自然科学基金面上项目, 2015-2018;
6. 热障涂层的化学气相沉积制备研究, 中德科技合作项目, 2015-2016;
7. 煤基燃料燃烧研究, 院战略先导专项子课题, 2013-2014;
8. 均相和异相燃烧反应动力学研究, 青年**, 2013-2016

代表性论文专著

截止2019年5月, 发表论文130余篇, 其中SCI收录81篇 (一作/通讯>60, 以下列出部分), EI文章65篇, SCI引用1634次, H因子为22, 出版英文专著两章, 申请发明专利5项。

1. Tian, D.X., Liu, Y.X., Wang, B.Y., Cao, C.C., Liu, Z.K., Zhai, Y.T., Zhang, Y., Yang, J.Z., Tian, Z.Y., Pyrolysis study of iso-propylbenzene with photoionization and molecular beam mass spectrometry, Combust. Flame, accepted.
2. Zhou, L., Yu, D., Wang, Z., Cheng, L.J., Jin, Z.H., Weng, J.J., Yang, J.Z., Tian, Z.Y., A detailed kinetic study on oxidation of benzyl alcohol, Combust. Flame, 207 (2019) 10-19.
3. Liu, Y.X., Tian, Z.Y., Oxidation chemistry of four C9H12 isomeric transportation fuels Experimental and modeling studies, Combust. Flame, 205 (2019) 165-179.
4. Liu, Y.X., Richter, S., Naumann, C., Braun-Unkhoff, M., Tian, Z.Y., Combustion study of a RP-3 surrogate fuel, Combust. Flame 202 (2019) 252-261.
5. Weng, J.J., Tian, Z.Y., Zhang, K.W., Ye, L.L., Liu, Y.X., Wu, L.N., Yu, D., Yang, J.Z., Cao, C.C., Zou, J.B., Experimental and kinetic investigation of pyrolysis and oxidation of nitromethane, Combust. Flame, 203 (2019) 247-254.
6. Wu, L.N., Tian, Z.Y., Weng, J.J., Yu, D., Liu, Y.X., Tian, D.X., Cao, C.C., Zou, J.B., Zhang, Y., Yang, J.Z., Combustion and oxidation study of pyridine as a representative of fuel-N compounds, Combust. Flame 202 (2019) 394-404.
7. Mountapbeme Kouotou, P., Tian, Z.Y., Controlled synthesis of α -Fe₂O₃@Fe₃O₄ composite catalysts for exhaust gas purification, Proc. Combust. Inst. 37 (2019) 5445-5453.
8. Liu, Y.X., Yu, D., Tian, D.X., Tian, Z.Y., An experimental and modeling study of oxidation of 1,2,4-trimethylcyclohexane with JSR, Proc. Combust. Inst. 37 (2019) 437-444.
9. El Kasmi, A., Pan G.F., Wu, L.N., Tian, Z.Y., An efficient and innovative catalytic reactor for VOCs emission control, Sci. Bull. 64 (2019) 625-633.
10. Kouotou, P.M., El Kasmi, A., Wu, L.N., Waqas, M., Tian, Z.Y., Particle size-band gap energy-catalytic properties relationship of PSE-CVD-derived Fe₃O₄ thin films, J. Taiwan Inst. Chem. Eng. 93 (2018) 427-435.
11. Yu, D., Tian, Z.Y., Wang, Z., Liu, Y.X., Zhou, L., Experimental and theoretical study on acetone pyrolysis in a jet-stirred reactor, Fuel, 234 (2018) 1380-1387.
12. Weng, J.J., Tian, Z.Y., Zhang, K.W., Ye, L.L., Liu, Y.X., Wu, L.N., Yu, D., Xie, M.F., Cao, C.C., Zou, J.B., Experimental and kinetic investigation of pyrolysis and oxidation of nitromethane, Combust. Flame, 203, 247-254.
13. Waqas, M., El Kasmi, A., Wang, Y., Kouotou, P.M., Tian, Z.Y., CVD synthesis of Cu-doped cobalt spinel thin film catalysts for kinetic study of propene oxidation, Coll. Surf. A, 556 (2018) 195-200.
14. Wu, L.N., Tian, Z.Y., Qin, W., DFT study on the of CO catalytic oxidation mechanism on the defective Cu₂O (111) surface, J. Phys. Chem. C, 122 (2018) 16733-16740.
15. Wang, B.Y., Liu, Y.X., Weng, J.J., Tian, Z.Y., An experimental and modeling study of low temperature oxidation of iso-propylbenzene, Energy & Fuels, 32 (2018) 8781-8788
16. Liu, Y.X., Wang, B.Y., Weng, J.J., Yu, D., Richter, S., Kick, T., Naumann, C., Braun-Unkhoff, M., Tian, Z.Y., A wide-range experimental and modeling study of oxidation and combustion of n-propylbenzene, Combustion and Flame, 191 (2018) 53-65.
17. Wang, B.Y., Yu, D., Pan, G.F., Liu, Y.X., Weng, J.J., Tian, Z.Y., An experimental and modeling study on the low temperature oxidation of surrogate for JP-8 part I: neat 1,3,5-trimethylbenzene, Combust. Flame, 192 (2018) 507-516.
18. Wang, B.Y., Liu, Y.X., Weng, J.J., Pan, G.F., Tian, Z.Y., An experimental and modeling study on the low temperature oxidation of surrogate for JP-8 part II: comparison between neat 1,3,5-trimethylbenzene and its mixture with n-decane, Combust. Flame, 192 (2018) 517-529.
19. Wu, L.N., Qin, W., Tian, Z.Y., Mechanism of CO oxidation on Cu₂O (111) surface: A DFT and microkinetic study, Int. J. Chem. Kinet., 50 (2018) 507-514.
20. Yu, D., Kong, C.D., Zhuo, J.K., Yao, Q., Li, S.Q., Tian, Z.Y., Combustion characteristics of well-dispersed boron submicroparticles and plasma effect, Combustion and Flame, 188 (2018) 94-103.
21. Weng, J.J., Liu, Y.X., Zhu, Y.N., Pan, Y., Tian, Z.Y., Online study on the co-pyrolysis of coal and biomass with vacuum ultraviolet photoionization mass spectrometry, Bioresource Technology, 244 (2017) 125-131.
22. Weng, J.J., Liu, Y.X., Wang, B.Y., Xing, L.L., Zhang, L.D., Tian, Z.Y., Experimental and kinetic investigation of 1,2,4-trimethylbenzene oxidation at low temperature, Proc. Combust. Inst. 36 (2017) 909-917.
23. Wang, B.Y., Liu, Y.X., Weng, J.J., Glarborg, P., Tian, Z.Y., New insights in the low-temperature oxidation of acetylene, Proc. Combust. Inst. 36 (2017) 355-363.
24. Fan, S.B., Mountapbeme Kouotou, P., Weng, J.J., Pan, G.F., Tian, Z.Y., Investigation of the structure stability and catalytic activity of Cu-Co binary oxides, Proc. Combust. Inst. 36 (2017) 4375-4382.
25. Mountapbeme Kouotou P., Tian, Z.Y., CVD synthesis of cobalt spinel for bio-butanol combustion, Surf. Coat. Technol. 326 (2017) 11-17.
26. El Kasmi, A., Tian, Z.Y., Vieker, H., Beyer, A., Chafik, T., Innovative CVD synthesis of Cu₂O catalysts for CO oxidation, Appl. Catal. B: Environ. 186 (2016) 10-18.
27. Mountapbeme Kouotou, P., Pan, G.F., Weng, J.J., Fan, S.B., Tian, Z.Y., Catalytic evaluation of the CVD made Co₃O₄ thin films towards deep oxidation of light olefins, J. Ind. Eng. Chem. 35 (2016) 253-261.
28. Tian, Z.Y., Vieker, H., Mountapbeme Kouotou, P., Beyer, A., In-situ characterization of Cu-Co oxides for catalytic application, Faraday Discussions, 177 (2015) 249-262.
29. Mountapbeme Kouotou, P., Tian, Z.Y., Cobalt-iron oxides made by CVD for low temperature catalytic application, Phys. Status Solidi A 212(7) (2015) 1508-1513.
30. Pan, G.F., Fan, S.B., Liang, J., Liu, Y.Y., Tian, Z.Y., CVD synthesis of Cu₂O films for catalytic combustion of VOCs, RSC Adv. 5 (2015) 42477-42481.
31. Assebban, M., Tian, Z.Y., El Kasmi, A., Bahlawane, N., Harti, S., Chafik, T., Catalytic complete oxidation of acetylene and propene over clay versus cordierite honeycomb monoliths without and with chemical vapor deposited cobalt oxide, Chem. Eng. J. 262 (2015) 1252-1259.
32. Fan, S.B., Pan, G.F., Liang, J., Tian, Z.Y., Tailored synthesis of CoOx thin films for catalytic application, RSC Adv. 5 (2015) 97272-97278.
33. Tian, Z.Y., Mountapbeme Kouotou, P., El Kasmi, A., Tchoua Ngamou, P.H., Kohse-Höinghaus, K., Vieker, H., Beyer, A., Götzhäuser, A., Low-temperature deep oxidation of olefins and DME over cobalt ferrite, Proc. Combust. Inst. 35 (2015) 2207-2214.
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35. Tian, Z.Y., Herrenbrück H.J., Mountapbeme Kouotou, P., Vieker, H., Beyer, A., Götzhäuser, A., and Kohse-Höinghaus, K. (2013): Facile synthesis of copper oxide film from alcohol-assisted CVD, Surf. Coat. Technol. 230, 33-38.
36. Mountapbeme Kouotou, P., Tian, Z.Y., Vieker, H., Beyer, A., Götzhäuser, A., and Kohse-Höinghaus, K., Selective synthesis of α -Fe₂O₃ thin films and effect of the deposition temperature and lattice oxygen on the catalytic combustion of propene, J. Mater. Chem. A 1 (2013) 10495-10504.
37. Tian, Z.Y., Mountapbeme Kouotou, P., Bahlawane, N., and Tchoua Ngamou, P.H., Synthesis of the catalytically active Mn₃O₄ spinel and its thermal properties. J. Phys. Chem. C 117 (2013) 6218-6224.
38. Mountapbeme Kouotou, P., Tian, Z.Y., Vieker, H., and Kohse-Höinghaus, K., Pulsed-spray evaporation CVD synthesis of hematite thin films for catalytic conversion of CO, Surf. Coat. Technol. 230 (2013) 59-65.
39. Tian, Z.Y., Chafik, T., Vannier, V., Assebban, M., Harti, S., Vidal, H., Gatica, J.M., Cifredo, G.A., Bahlawane, N., Mountapbeme Kouotou, P., and Kohse-Höinghaus, K., Towards biofuels combustion with an easily extruded clay as a natural catalyst. Appl. Energy 107 (2013) 149-156.
40. Tian, Z.Y., Bahlawane, N., Vannier, V., and Kohse-Höinghaus, K., Structure sensitivity of propene oxidation over Co-Mn spinels. Proc. Combust. Inst. 34 (2013) 2261-2268.
41. Mountapbeme Kouotou, P., Tian, Z.Y., Mundloch, U., Bahlawane, N. and Kohse-Höinghaus, K., Controlled synthesis of Co₃O₄ spinel with Co(acac)₃ as precursor. RSC Adv. 2 (2012) 10809-10812.
42. Tian, Z.Y., Tchoua Ngamou, P.H., Vannier, V., Kohse-Höinghaus, K. and Bahlawane, N., Catalytic oxidation of VOCs over mixed Co-Mn oxides, Appl. Catal. B: Environ. 117-118 (2012) 125-134.
43. Tian, Z.Y., Fournet, R., Glaude, P.A., Yuan, T., Zhang, K.W., Qi, F. and Battin-Leclerc, F., An experimental and numerical investigation of premixed furan/oxygen/argon flames, Combust. Flame 158 (2011) 756-773.
44. Tian, Z.Y., Pitz, W.J., Fournet, R., Glaude, P.A. and Battin-Leclerc, F., A detailed kinetic modeling study of toluene oxidation in a premixed laminar flame. Proc. Combust. Inst. 33 (2011) 233-241.
45. Pousse, E., Tian, Z.Y., Glaude, P.A., Fournet, R. and Battin-Leclerc, F., A lean methane premixed laminar flame doped with components of diesel fuel Part III: Indane. Combust. Flame 157 (2010) 1236-1260.(co-first author, feature article)
46. Tian, Z.Y., Li, Y.Y., Zhang, L.D., Glarborg, P. and Qi, F., An experimental and kinetic modeling study of premixed NH₃/CH₄/O₂/Ar flames at low pressure. Combust. Flame 156 (2009) 1413-1426.
47. Tian, Z.Y., Bahlawane, N., Qi, F. and Kohse-Höinghaus, K., Catalytic oxidation of hydrocarbons over Co₃O₄ catalyst prepared by CVD. Catal. Commun. 11 (2009) 118-122.
48. Tian, Z.Y., Zhang, L.D., Li, Y.Y., Yuan, T. and Qi, F., An experimental and kinetic modeling study of a premixed nitromethane flame at low pressure. Proc. Combust. Inst. 32 (2009) 311-318.
49. Tian, Z.Y., Li, Y.Y., Zhang, T.C., Zhu, A.G. and Qi, F., Identification of combustion intermediates in low-pressure premixed pyridine/oxygen/argon flames. J. Phys. Chem. A 112 (2008) 13549-13555.
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奖励与荣誉

中国工程热物理学会吴仲华优秀青年学者奖, 2014;
中组部青年**, 2013;
国际燃烧学会杰出青年科学家和工程师奖 (Bernard Lewis Fellowship) , 2010;
洪堡学者, 2010

招生信息

1-2名

相关附件: