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Invited Review Articles:

1. Zheng, M.J.; Chu,Y.Y.; Wang, Q.*; Wang, Y.X.; Xu, J.; **Deng, F.*** Advanced solid-state NMR spectroscopy and its applications in zeolite chemistry *Prog. Nucl. Magn. Reson. Spectrosc.* **2024**, 140-141: 1-41
2. Wang, W.Y.; Wang, Q.; Xu, J.*; **Deng, F.** Understanding heterogeneous catalytic hydrogenation by parahydrogen-induced polarization NMR *ACS Catal.* **2023**, 13:3501-3519.
3. Wang, W.Y.; Xu, J.*; **Deng, F.*** Recent advances in solid-state NMR of zeolite catalysts *Natl. Sci. Rev.* **2022**, 9: nwac155
4. Qi, G.D.; Wang, Q.; Xu, J.*; **Deng, F.** Solid-state NMR studies of internuclear correlations for characterizing catalytic materials *Chem. Soc. Rev.* **2021**, 50: 8382-8399.
5. Zheng, A.M.*; Liu, S.B.*; **Deng, F.*** ^{31}P NMR chemical shifts of phosphorus probes as reliable and practical acidity scales for solid and liquid catalysts *Chem. Rev.* **2017**, 117: 12475-12531.
6. Zheng, A.M.; Li, S.H.; Liu, S. B.*; **Deng, F.*** Acidic properties and structure-activity correlations of solid acid catalysts revealed by solid-state NMR spectroscopy *Acc. Chem. Res.* **2016**, 49: 655-663.
7. Xu, J.*; Wang, Q.; **Deng, F.*** Metal active sites and their catalytic functions in zeolites: insights from solid-state NMR spectroscopy *Acc. Chem. Res.* **2019**, 52: 2179-2189
8. Li, S. H.; Lafon, O.; Wang, W.Y.; Wang, Q.; Wang, X.X.; Li, Y.; Xu, J.*; **Deng, F.** Recent advances of solid-state NMR spectroscopy for microporous materials *Adv. Mater.* **2020**, 32, 2002879.
9. Marchetti, A.; Chen, J.; Pang, Z. F.; Li, S. H.; Ling, D. H.; **Deng, F.***; Kong, X. Q.* Understanding surface and interfacial chemistry in functional nanomaterials via solid-state NMR *Adv. Mater.* **2017**, 29, 1605895
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11. Wang, C.; Xu, J.*; **Deng, F.*** Mechanism of methanol-to-hydrocarbon reaction over zeolites: a solid-state NMR perspective *ChemCatChem* **2020**, 12, 965-980.
12. Zheng, A.M., Liu, S.B.*, **Deng, F.*** Acidity characterization of heterogeneous catalysts by solid-state NMR spectroscopy using probe molecules. *Solid State Nucl. Magn. Reson.* **2013**, 55-56: 12-27.
13. He, C.Y.; Li, S.H.*; Xiao, Y.Q.; Xu, J.; **Deng, F.*** Application of solid-state NMR techniques for structural characterization of metal-organic frameworks *Solid State Nucl. Magn. Reson.* **2022**, 117: 101772.
14. Xiao, Y.Q.; Li, S.H.*; Xu, J.; **Deng, F.*** Solid-state NMR studies of host-guest chemistry in metal-organic frameworks *Current Opinion in Colloid & Interface Science* **2022**, 61:101633
15. Zhao, X.L.; Xu, J.*; **Deng, F.*** Solid-state NMR for metal-containing zeolites: from active site to reaction mechanism *Front. Chem. Sci. Eng.* **2020**, 14:159-187.
16. Li, S.H.; **Deng, F.** Recent advances of solid-state NMR studies on zeolites *Annual Reports on NMR Spectroscopy*, **2013**, 78: 1-45.
17. Zheng, A. M.; **Deng, F.**; Liu S. B. Acidity characterization of solid acid catalysts by solid-state ^{31}P NMR of adsorbed phosphorus containing probe molecules *Annual Reports on NMR Spectroscopy*, **2014**, 81: 47-108.

18. Zheng, A.M.; Huang, S.J.; Wang, Q.; Zhang, H.L.; **Deng, F.**[*]; Liu, S.B.[*] Progress in development and application of solid-state NMR for solid acid catalysis. *Chin. J. Catal.* **2013**, 34: 436-491.
19. Li, S. H.; Li, J.; Zheng, A. M.; **Deng, F.**[*] Solid-state NMR characterization of the structure and catalytic reaction mechanism of solid acid catalysts *Acta Phys.-Chim. Sin.* **2017**, 33: 270-282.
20. Li, S.H. ; Zhou, L.; Zheng, A.M.; **Deng, F.**[*] Recent advances in solid-state NMR characterization of zeolites *Chin. J. Catal.* **2015**, 36 :789-796.
21. Qi, G.D.; Ye, X.D.; Xu, J.[*]; **Deng, F.**[*] Progress in NMR studies of carbohydrates conversion on zeolites *Chem. J. Chinese Universities-Chinese* **2021**, 42:148-164.
22. Xiao, Y.Q.; Li, S.H.[*]; Tang, J.; Xu, J.; **Deng, F.**[*] Solid-state NMR spectroscopy studies on structure, dynamics and host-guest interaction in metal-organic framework materials *Chem. J. Chinese Universities-Chinese* **2020**, 41: 204-220
23. Yu, Z. W.; Zheng, A. M.; Wang, Q.; **Deng, F.**[*] Application of two-dimensional double quantum magic angle spinning NMR to solid functional materials *Chem. J. Chinese Universities-Chinese* **2011**, 32: 471-484.
24. Yu, Z.W.; Zheng, A.M.; Wang, Q.; Huang, S.-J.; **Deng, F.**[*]; Liu, S.B.[*] Acidity characterization of solid acid catalysts by solid-state NMR spectroscopy: a review on recent progresses. *Chin. J. Magn. Reson.* **2010**, 27: 485-515.

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1. Xu, J.; Wang, Q.; Li, S. H.; **Deng, F.** *Solid-State NMR in Zeolite Catalysis*, Lecture Notes in Chemistry 103, Springer Nature Singapore Pte Ltd. **2019**, page 1-260.

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1. Zheng, A.M.; Li, S.H.; **Deng, F.** Solid-state NMR characterization of acidity of solid catalysts, *Modern Magnetic Resonance*, Springer, Graham A. Webb (ed.) **2017**, 1-23.
2. Li, S.H.; **Deng, F.** Solid-state NMR studies of zeolites, *Zeolites in Sustainable Chemistry*, Green Chemistry and Sustainable Technology, F.S. Xiao, X. Meng (ed), Springer-Verlag Berlin Heidelberg **2015**, page 231-268.
3. **Deng, F.**; Yang, J.; Ye, C.H. Solid-state NMR characterization of solid surface of heterogeneous catalysts *Modern Magnetic Resonance*, Graham A. Webb (ed.) **2005**, 205-211.

Selected Presentations:

1. ^{1}H spin diffusion of organic molecules adsorbed on porous solids, Oral presentation, Proceedings of International 4th Beijing Conference and Exhibition on Instrumental Analysis, October 18-24, **1991**, Beijing, China
2. Adsorption of Na^{+} to γ-alumina studied by ^{23}Na and ^{27}Al solid-state NMR spectroscopy, Oral presentation, Proceedings of International 5th Beijing Conference and Exhibition on Instrumental Analysis, October 9-12, **1993**, Beijing, China

3. Solid-state NMR investigation of acid sites in dealuminated H-ZSM-5 zeolite, Short oral presentation, Proceedings of the Third International Meeting on Recent Advances in MR Applications to Porous Media, September 3-6, **1995**, Louvian-La-Neuve, Belgium

4. ^{1}H MAS and $^{1}H\{^{23}Na\}$ double resonance NMR studies on the modification of surface hydroxyls of γ-alumina by sodium, Plenary lecture, the 9th Chinese National Magnetic Resonance Conferenece, September, 15-19, **1996**, Chengde, China

5. Solid-state NMR studies of molecular sieves and catalytic reactions, Invited lecture, Proceedings of International 8th Beijing Conference and Exhibition on Instrumental Analysis, October 25-28, **1999**, Beijing, China

6. Solid-state NMR studies of zeolite catalysts, Invited lecture for Wang T. C. Award for Magnetic Resonance Spectroscopy, the 11th Chinese National Magnetic Resonance Conferenece, October15-18, **2000**, Nanjing, China

7. Using trimethylphosphine as a probe molecule to study the acid sites in Al-MCM-41materials by solid-state NMR spectroscopy, Oral presentation, International Symposium on Solid State Chemistry in China, August 9-12, **2002**, Changchun, China

8. Solid-state NMR studies of ordered mesoporous materials. Oral presentation, Proceedings of International 10th Beijing Conference and Exhibition on Instrumental Analysis, October 13-16, **2003**, Beijing, China

9. Surface acidity of BF_3/Al_2O_3 catalyst as studied by solid-state NMR and theoretical calculation. Invited lecture, the 1st Asia-Pacific NMR Symposium, November 9-11, **2005**, Yokohama, Japan

10. Solid-state NMR spectroscopy and its application to heterogeneous catalysts, Invited lecture, the 1st Sino-French Workshop on Solid-state NMR Spectroscopy, October 17-21, **2006**, Wuhan, China

11. Solid-state NMR studies on solid acid catalysts, Plenary lecture, the 14th Chinese National Magnetic Resonance Conferenece, October 11-13, **2006**, Xi'an, China.

12. A Combined Solid-State NMR Spectroscopy and Theoretical Calculation Study of Bronsted/Lewis Acid Synergy in Dealuminated Y Zeolite. Invited lecture, the 16th ISMAR (International Society for Magnetic Resonance) Conference, October 14-19, **2007**, Kenting, Taiwan, China

13.Two-dimensional ^{1}H-^{1}H Double-quantum Magic Angle Spinning NMR Studies of Bronsted/Lewis Acid Synergy in zeolites. Invited lecture, the 1st Cross-Strait Magnetic Resonance Symposium, Oct.10 - 12, **2007**, Taibei, China.

14. Solid-state NMR spectroscopy: principle and application. Invited lecture, Advanced Class of Modern Characterization Techniques for Catalysis, October 26-30, **2007**, Dalian, China.

15. Solid-state NMR spectroscopy. Invited lecture, Bruker Workshop on Solid-state NMR spectroscopy, April 4-6, **2008**, Beijing, China.

16. Brønsted/Lewis Acid Synergy in Microporous Zeolites Studied by Solid-State NMR Spectroscopy and Theoretical Calculation. Invited lecture, the 13th Asian Chemical Conference, September 14-16, **2009**, Shanghai, China.

17. Solid-state NMR studies of spatial proximity between different acid sites in zeolites, Keynote lecture, the 15th Chinese National Conference on Zeolites, October 12-15, **2009**, Luoyang, China

18. Spatial Proximity of Acid Sites in Microporous Zeolites as Studied by ^{1}H-^{1}H and ^{27}Al-^{27}Al DQ MAS Solid-state NMR Spectroscopy. Invited lecture, Joint EUROMAR **2010** and 17th ISMAR (International Society for Magnetic Resonance) conference, July 4-9, **2010**, Florence, Italy.

19. Surface acidity of solid acid catalysts studied by solid-state NMR spectroscopy and theoretical DFT calculations. Invited lecture, the 240th ACS National Meeting, August 22-27, **2010**, Boston, USA.

20. Solid-state NMR characterization of heterogeneous catalysts. Invited lecture, the 2nd Sino-French Workshop on Solid-state NMR Spectroscopy, November 1-3, **2010**, Wuhan, China

21. Two-dimensional ^{1}H-^{1}H and ^{27}Al-^{27}Al DQ MAS Solid-state NMR Studies of Spatial Proximity of Acid Sites in Zeolites. Invited lecture, the 4th Asia-Pacific NMR Symposium, October 16-19, **2011**, Beijing, China

22. Solid-state NMR and DFT calculation studies of zeolites. Keynote lecture, the 16th Chinese National Conference on Zeolites, October 14-17, **2011**, Beijing, China

23. Bronsted/Lewis Acid Synergy in Zeolites Studied by Two-dimensional ^{1}H-^{1}H and ^{27}Al-^{27}Al DQ MAS Solid-state NMR Spectroscopy. Invited lecture, Frontiers Seminar Series, Pacific Northwest National Laboratory, April 23, **2011**, Richland, Washington, USA.

24. Solid-state NMR Studies of Heterogeneous Catalysts, Invited lecture, the 6th Pacific Basin Conference on Adsorption Science and Technology, May 20-23, **2012**, Taibai, China.

25. Two-dimensional ^{1}H-^{1}H and ^{27}Al-^{27}Al DQ MAS Solid-state NMR Studies of Zeolites, Invited lecture, the 41th Korean Magnetic Resonance Society Conference, June 28-30, **2012**, Jeju Island, Korea.

26. Methane activation and conversion over Zn modified ZSM-5 Zeolites studied by Solid-state NMR spectroscopy and DFT Calculation. Invited lecture, the 6th Asia-Pacific Congress on Catalysis, October 14-17, **2013**, Taibei, China.

27. Solid-state NMR studies of heterogeneous catalysts and catalytic reactions. Invited lecture, the 3nd Sino-French Workshop on Solid-state NMR Spectroscopy, May 9-11, **2013**, Dalian, China

28. Solid acid catalysts and catalytic reactions studied by solid-state NMR and DFT calculations. Keynote lecture, the 17th Chinese National Conference on Zeolites, Aug 29- Sept 2, **2013**, Yinchuan, China.

29. Solid-state NMR and theoretical DFT calculation studies on solid acid catalysts and related catalytic reactions. Invited lecture, the 55th ENC (Experimental Nuclear Magnetic Resonance Conference), March 23-28, **2014**, Boston, USA.

30. Solid-state NMR and theoretical DFT calculation studies on solid acid catalysts and related catalytic reactions. Invited lecture, the 29th National Conference of Chinese Chemical Society (porous functional materials section), August 4-7, **2014**, Beijing, China

31. Solid acid catalysts and related catalytic reactions studied by solid-state NMR spectroscopy and DFT calculations. Keynote lecture, the 17th National Congress on Catalysis of China, October 13-17, **2014**, Hanzhou, China

32. Solid-state NMR and theoretical DFT calculation studies on solid acid catalysts and catalytic reactions. Plenary lecture, 18th Chinese National Conference on Zeolites, October 25-28, **2015**, Shanghai, China.

33. Solid-state NMR studies on methane activation and conversion over Zn-modified ZSM-5 Zeolites. Invited lecture, the 19th ISMAR (International Society for Magnetic Resonance) Conference, August 16-21, **2015**, Shanghai, China.
34. Methane and CO activation and conversion over Zn-modified ZSM-5 zeolites studied by solid-state NMR and ESR specstroscopy, Invited lecture, the 16th International Congress on Catalysis, July 3-8, **2016**, Beijing, China
35. Solid-state NMR studies of solid acid catalysts and related catalytic reactions. Invited lecture, 2016 Lanzhou International Workshop on Solid-state Nuclear Magnetic Resonance, August 19-21, **2016**, Lanzhou, China

36. Solid-state NMR studies of zeolite catalysis. Invited lecture, the 7th Cross-Strait Magnetic Resonance Symposium, October 30 - Nov. 1, **2018**, Taibei, China.

37. The stuctures and catalytic reaction mechanisms of zeolites studied by solid-state NMR spectroscopy. Keynote lecture, the 19th National Congress on Catalysis of China, October 13-17, **2019**, Chongqing, China

38. Solid-state NMR studies of heterogenous catalysis in zeolites. Keynote lecture, the 21st Chinese National Conference on Zeolites, September 27-30, **2021**, Qingdao, China

39. Zeolite catalysis studied by solid-state NMR spectrocopy, Invited online lecture, Chinese Analytical Forum, Nano Catalysis Section, June 10, **2022**