

## REFERENCES

- [1] L. Chen, S. Deng, R. Zhao, Y. Zhu, L. Zhao, and S. Li, “Temperature swing adsorption for CO<sub>2</sub> capture: Thermal design and management on adsorption bed with single-tube/three-tube internal heat exchanger,” *Appl Therm Eng*, vol. 199, 2021, doi: 10.1016/j.aplthermaleng.2021.117538.
- [2] M. Andrade, S. C. Rodrigues, and A. Mendes, “High performing CMS adsorbent for O<sub>2</sub> / N<sub>2</sub> separation,” *Microporous and Mesoporous Materials*, vol. 296, 2020, doi: 10.1016/j.micromeso.2019.109989.
- [3] T. Horikawa, J. Hayashi, and K. Muroyama, “Preparation of molecular sieving carbon from waste resin by chemical vapor deposition,” *Carbon N Y*, vol. 40, no. 5, 2002, doi: 10.1016/S0008-6223(01)00157-9.
- [4] Y. Lian, S. Deng, S. Li, Z. Guo, L. Zhao, and X. Yuan, “Numerical analysis on CO<sub>2</sub> capture process of temperature swing adsorption (TSA): Optimization of reactor geometry,” *International Journal of Greenhouse Gas Control*, vol. 85, 2019, doi: 10.1016/j.ijggc.2019.03.029.
- [5] M. K. Mondal, H. K. Balsora, and P. Varshney, “Progress and trends in CO<sub>2</sub> capture/separation technologies: A review,” *Energy*, vol. 46, no. 1, 2012, doi: 10.1016/j.energy.2012.08.006.
- [6] L. Jiang, R. Q. Wang, A. Gonzalez-Diaz, A. Smallbone, R. O. Lamidi, and A. P. Roskilly, “Comparative analysis on temperature swing adsorption cycle for carbon capture by using internal heat/mass recovery,” *Appl Therm Eng*, vol. 169, 2020, doi: 10.1016/j.aplthermaleng.2020.114973.
- [7] M. Pardakhti *et al.*, “Trends in Solid Adsorbent Materials Development for CO<sub>2</sub> Capture,” *ACS Appl Mater Interfaces*, vol. 11, no. 38, 2019, doi: 10.1021/acsami.9b08487.
- [8] A. M. Varghese and G. N. Karanikolos, “CO<sub>2</sub> capture adsorbents functionalized by amine – bearing polymers: A review,” 2020. doi: 10.1016/j.ijggc.2020.103005.
- [9] R. F. P. M. Moreira, H. J. José, and A. E. Rodrigues, “Modification of pore size in activated carbon by polymer deposition and its effects on molecular sieve selectivity,” *Carbon N Y*, vol. 39, no. 15, 2001, doi: 10.1016/S0008-6223(01)00046-X.

- [10] H. Vannak, Y. Osaka, T. Tsujiguchi, and A. Kodama, “The efficacy of carbon molecular sieve and solid amine for CO<sub>2</sub> separation from a simulated wet flue gas by an internally heated/cooled temperature swing adsorption process,” *Appl Therm Eng*, vol. 239, 2024, doi: 10.1016/j.aplthermaleng.2023.122145.
- [11] R. Ben-Mansour *et al.*, “Carbon capture by physical adsorption: Materials, experimental investigations and numerical modeling and simulations - A review,” 2016. doi: 10.1016/j.apenergy.2015.10.011.
- [12] Nasruddin, “Dynamic Modeling and Simulation of a Two-Bed ” Able of Contents,” 2005.
- [13] A. Mukherjee, J. A. Okolie, A. Abdelrasoul, C. Niu, and A. K. Dalai, “Review of post-combustion carbon dioxide capture technologies using activated carbon,” *Journal of Environmental Sciences*, vol. 83, pp. 46–63, Sep. 2019, doi: 10.1016/J.JES.2019.03.014.
- [14] K. A. Rahman, W. S. Loh, and K. C. Ng, “Heat of Adsorption and Adsorbed Phase Specific Heat Capacity of Methane/Activated Carbon System,” *Procedia Eng*, vol. 56, pp. 118–125, Jan. 2013, doi: 10.1016/J.PROENG.2013.03.097.
- [15] U. Khan *et al.*, “Assessing absorption-based CO<sub>2</sub> capture: Research progress and techno-economic assessment overview,” *Carbon Capture Science & Technology*, vol. 8, no. September, p. 100125, 2023, doi: 10.1016/j.ccst.2023.100125.
- [16] N. Mahmood Aljamali and I. Obaid Alfatlawi, “Physical and Chemical Adsorption and its Applications,” 2021, doi: 10.37628/IJTCK.
- [17] E. Tandy, I. F. Hasibuan, and H. Harahap, “KEMAMPUAN ADSORBEN LIMBAH LATEKS KARET ALAM TERHADAP MINYAK PELUMAS DALAM AIR,” 2012.
- [18] F. D. Ginting, “PENGUJIAN ALAT PENDINGIN SISTIMADSORPSI DUA ADSORBER DENGANMENGGUNAKAN METANOL 1000 MI SEBAGAI REFRIGERAN,” 2008.
- [19] Z. W. , Y. W. , & C. S. H. R., “Biosorption of Methylene Blue from Aqueous Solution by Fallen Phoenix Tree’s Leaves,” *J Hazard Mater*, pp. 156–162, 2007.
- [20] L. G. Sorokhaibam and M. Ahmaruzzaman, “Phenolic Wastewater Treatment: Development and Applications of New Adsorbent Materials,” in *Industrial*

*Wastewater Treatment, Recycling and Reuse*, Elsevier Inc., 2014, pp. 323–368.  
doi: 10.1016/B978-0-08-099968-5.00008-8.

- [21] S. Masuda, Y. Osaka, T. Tsujiguchi, and A. Kodama, “CO<sub>2</sub> capture from a simulated dry exhaust gas by internally heated and cooled temperature swing adsorption,” *Journal of Chemical Engineering of Japan*, vol. 54, no. 5, 2021, doi: 10.1252/jcej.20we112.
- [22] L. Jiang, A. P. Roskilly, and R. Z. Wang, “Performance exploration of temperature swing adsorption technology for carbon dioxide capture,” *Energy Convers Manag*, vol. 165, 2018, doi: 10.1016/j.enconman.2018.03.077.
- [23] R. Ben-Mansour, M. Basha, and N. A. A. Qasem, “Multicomponent and multi-dimensional modeling and simulation of adsorption-based carbon dioxide separation,” *Comput Chem Eng*, vol. 99, pp. 255–270, Apr. 2017, doi: 10.1016/J.COMPCHEMENG.2017.01.040.
- [24] L. Chen, S. Deng, R. Zhao, Y. Zhu, L. Zhao, and S. Li, “Temperature swing adsorption for CO<sub>2</sub> capture: Thermal design and management on adsorption bed with single-tube/three-tube internal heat exchanger,” *Appl Therm Eng*, vol. 199, p. 117538, Nov. 2021, doi: 10.1016/J.APPLTHERMALENG.2021.117538.
- [25] R. Gonzalez-Olmos, A. Gutierrez-Ortega, J. Sempere, and R. Nomen, “Zeolite versus carbon adsorbents in carbon capture: A comparison from an operational and life cycle perspective,” *Journal of CO<sub>2</sub> Utilization*, vol. 55, 2022, doi: 10.1016/j.jcou.2021.101791.
- [26] J. M. V. Nabais *et al.*, “New acrylic monolithic carbon molecular sieves for O<sub>2</sub>/N<sub>2</sub> and CO<sub>2</sub>/CH<sub>4</sub> separations,” *Carbon N Y*, vol. 44, no. 7, 2006, doi: 10.1016/j.carbon.2005.11.005.
- [27] R. Zhao, S. Deng, L. Zhao, S. Li, Y. Zhang, and B. Liu, “Performance analysis of temperature swing adsorption for CO<sub>2</sub> capture using thermodynamic properties of adsorbed phase,” *Appl Therm Eng*, vol. 123, pp. 205–215, 2017, doi: 10.1016/j.applthermaleng.2017.05.042.
- [28] R. Hofmann, H. Vogtenhuber, and L. Prendl, “Optimized heat exchanger integration within a TSA-process based on experimentally evaluated heat transfer correlations for finned-tubes in fluidized-beds,” *Powder Technol*, vol. 356, 2019, doi: 10.1016/j.powtec.2019.09.030.

- [29] L. Chen, S. Deng, R. Zhao, Y. Zhu, L. Zhao, and S. Li, “Temperature swing adsorption for CO<sub>2</sub> capture: Thermal design and management on adsorption bed with single-tube/three-tube internal heat exchanger,” *Appl Therm Eng*, vol. 199, p. 117538, Nov. 2021, doi: 10.1016/J.APPLTHERMALENG.2021.117538.

