

Bibliography

- [1] Satish Kumar et al. “Demand Analysis for Cooling by Sector in India in 2027”. In: *New Delhi: Alliance for an Energy Efficient Economy* (2018).
- [2] Naeem Abas et al. “Natural and synthetic refrigerants, global warming: A review”. In: *Renewable and Sustainable Energy Reviews* 90 (2018), pp. 557–569.
- [3] Gustav Lorentzen. “Revival of carbon dioxide as a refrigerant”. In: *International journal of refrigeration* 17.5 (1994), pp. 292–301.
- [4] *Commercial CO2 Refrigeration Systems*. <https://climate.emerson.com/documents/commercial-CO2-refrigeration-systems-en-ca-3592874.pdf>. Accessed: 2021-01-31.
- [5] Eric W Lemmon, Marcia L Huber, and Mark O McLinden. “NIST standard reference database 23: reference fluid thermodynamic and transport properties-REFPROP, version 8.0”. In: (2007).
- [6] DILEEP KUMAR Gupta and MS Dasgupta. “Simulation and performance evaluation of air-cooled finned-tube gas cooler for trans-critical carbon dioxide refrigeration system in Indian context”. In: *Conf. Sustain. Cold Chain. PARIS*. 2013.
- [7] Douglas M Robinson and Eckhard A Groll. “Efficiencies of transcritical CO₂ cycles with and without an expansion turbine: Rendement de cycles transcritiques au CO₂ avec et sans turbine d’expansion”. In: *International Journal of Refrigeration* 21.7 (1998), pp. 577–589.
- [8] Norman H Gay. *Refrigerating system*. 1931.
- [9] Stefan Elbel. “Historical and present developments of ejector refrigeration systems with emphasis on transcritical carbon dioxide air-conditioning applications”. In: *International Journal of Refrigeration* 34.7 (2011), pp. 1545–1561.
- [10] Md Ezaz Ahammed, Souvik Bhattacharyya, and M Ramgopal. “Thermodynamic design and simulation of a CO₂ based transcritical vapour compression refrigeration system with an ejector”. In: *International journal of refrigeration* 45 (2014), pp. 177–188.
- [11] *Commercial CO2 Refrigeration Systems*. https://www.r744.com/files/675_commercial_co2_guide.pdf. Accessed: 2021-04-15.

- [12] Jahar Sarkar. "Review on Cycle Modifications of Transcritical CO₂ Refrigeration and Heat Pump Systems." In: *Journal of Advanced Research in Mechanical Engineering* 1.1 (2010).
- [13] Pradeep Bansal. "A review—Status of CO₂ as a low temperature refrigerant: Fundamentals and R&D opportunities". In: *Applied Thermal Engineering* 41 (2012), pp. 18–29.
- [14] Rodrigo Llopis et al. "Subcooling methods for CO₂ refrigeration cycles: A review". In: *International Journal of Refrigeration* 93 (2018), pp. 85–107.
- [15] Frank Bruno, Martin Belusko, and Edward Halawa. "CO₂ Refrigeration and Heat Pump Systems—A Comprehensive Review". In: *Energies* 12.15 (2019), p. 2959.
- [16] Alan A Kornhauser. "The use of an ejector as a refrigerant expander". In: (1990).
- [17] Daqing Li and Eckhard A Groll. "Transcritical CO₂ refrigeration cycle with ejector-expansion device". In: *International Journal of refrigeration* 28.5 (2005), pp. 766–773.
- [18] Fang Liu and Eckhard A Groll. "Analysis of a two phase flow ejector for transcritical CO₂ cycle". In: (2008).
- [19] Fang Liu, Yong Li, and Eckhard A Groll. "Performance enhancement of CO₂ air conditioner with a controllable ejector". In: *international journal of refrigeration* 35.6 (2012), pp. 1604–1616.
- [20] Fang Liu, Eckhard A Groll, and Daqing Li. "Modeling study of an ejector expansion residential CO₂ air conditioning system". In: *Energy and Buildings* 53 (2012), pp. 127–136.
- [21] Fang Liu and Eckhard A Groll. "Study of ejector efficiencies in refrigeration cycles". In: *Applied Thermal Engineering* 52.2 (2013), pp. 360–370.
- [22] Christoph Richter et al. "Using modelica as a design tool for an ejector test bench". In: *Proceedings of the Modelica Conference 2006*. 2006.
- [23] Christian Lucas and Juergen Koehler. "Experimental investigation of the COP improvement of a refrigeration cycle by use of an ejector". In: *international journal of refrigeration* 35.6 (2012), pp. 1595–1603.
- [24] Christian Lucas et al. "Experimentally validated CO₂ ejector operation characteristic used in a numerical investigation of ejector cycle". In: *International journal of refrigeration* 36.3 (2013), pp. 881–891.
- [25] Xiangjie Chen et al. "Recent developments in ejector refrigeration technologies". In: *Renewable and Sustainable Energy Reviews* 19 (2013), pp. 629–651.
- [26] Xiangjie Chen et al. "Theoretical studies of a hybrid ejector CO₂ compression cooling system for vehicles and preliminary experimental investigations of an ejector cycle". In: *Applied Energy* 102 (2013), pp. 931–942.

- [27] Mortaza Yari and SMS Mahmoudi. “Thermodynamic analysis and optimization of novel ejector-expansion TRCC (transcritical CO₂) cascade refrigeration cycles (Novel transcritical CO₂ cycle)”. In: *Energy* 36.12 (2011), pp. 6839–6850.
- [28] Jahar Sarkar. “Ejector enhanced vapor compression refrigeration and heat pump systems—A review”. In: *Renewable and Sustainable Energy Reviews* 16.9 (2012), pp. 6647–6659.
- [29] Fang Liu. “Review on ejector efficiencies in various ejector systems”. In: (2014).
- [30] Kuen-Tzong Lu, Hong-Sen Kou, and Ting-Hsien Lan. “Geometrically and thermally non-optimum ejector heat pump analysis”. In: *Energy conversion and Management* 34.12 (1993), pp. 1287–1297.
- [31] Da-Wen Sun, Ian W Eames, and Satha Aphornratana. “Evaluation of a novel combined ejector-absorption refrigeration cycle—I: computer simulation”. In: *International Journal of Refrigeration* 19.3 (1996), pp. 172–180.
- [32] Da-Wen Sun. “Solar powered combined ejector-vapour compression cycle for air conditioning and refrigeration”. In: *Energy Conversion and Management* 38.5 (1997), pp. 479–491.
- [33] Satha Aphornratana and Ian W Eames. “A small capacity steam-ejector refrigerator: experimental investigation of a system using ejector with movable primary nozzle”. In: *International Journal of Refrigeration* 20.5 (1997), pp. 352–358.
- [34] S Wu and IW Eames. “A novel absorption–recompression refrigeration cycle”. In: *Applied thermal engineering* 18.11 (1998), pp. 1149–1157.
- [35] Masafumi Nakagawa, Menandro Serrano Berana, and Akinori Kishine. “Supersonic two-phase flow of CO₂ through converging–diverging nozzles for the ejector refrigeration cycle”. In: *international journal of refrigeration* 32.6 (2009), pp. 1195–1202.
- [36] Chen Guangming et al. “An experimental and theoretical study of a CO₂ ejector”. In: *International Journal of Refrigeration* 33.5 (2010), pp. 915–921.
- [37] Sun Fangtian and Ma Yitai. “Thermodynamic analysis of transcritical CO₂ refrigeration cycle with an ejector”. In: *Applied Thermal Engineering* 31.6 (2011), pp. 1184–1189.
- [38] Jae Seung Lee, Mo Se Kim, and Min Soo Kim. “Experimental study on the improvement of CO₂ air conditioning system performance using an ejector”. In: *international journal of refrigeration* 34.7 (2011), pp. 1614–1625.
- [39] Jae Seung Lee, Mo Se Kim, and Min Soo Kim. “Studies on the performance of a CO₂ air conditioning system using an ejector as an expansion device”. In: *International Journal of Refrigeration* 38 (2014), pp. 140–152.

- [40] Mortaza Yari. “Performance analysis and optimization of a new two-stage ejector-expansion transcritical CO₂ refrigeration cycle”. In: *International Journal of Thermal Sciences* 48.10 (2009), pp. 1997–2005.
- [41] F Eskandari Manjili and MA Yavari. “Performance of a new two-stage multi-intercooling transcritical CO₂ ejector refrigeration cycle”. In: *Applied Thermal Engineering* 40 (2012), pp. 202–209.
- [42] M Goodarzi and A Gheibi. “Performance analysis of a modified trans-critical CO₂ refrigeration cycle”. In: *Applied Thermal Engineering* 75 (2015), pp. 1118–1125.
- [43] M Goodarzi, A Gheibi, and M Motamedian. “Comparative analysis of an improved two-stage multi-inter-cooling ejector-expansion trans-critical CO₂ refrigeration cycle”. In: *Applied Thermal Engineering* 81 (2015), pp. 58–65.
- [44] Ciro Aprea and Angelo Maiorino. “An experimental evaluation of the transcritical CO₂ refrigerator performances using an internal heat exchanger”. In: *International journal of refrigeration* 31.6 (2008), pp. 1006–1011.
- [45] Ying Chen and Junjie Gu. “The optimum high pressure for CO₂ transcritical refrigeration systems with internal heat exchangers”. In: *International Journal of Refrigeration* 28.8 (2005), pp. 1238–1249.
- [46] Sung Goo Kim et al. “The performance of a transcritical CO₂ cycle with an internal heat exchanger for hot water heating”. In: *International Journal of Refrigeration* 28.7 (2005), pp. 1064–1072.
- [47] Stefan Wilfried Elbel and Predrag S Hrnjak. “Effect of internal heat exchanger on performance of transcritical CO₂ systems with ejector”. In: (2004).
- [48] Stefan Elbel and Pega Hrnjak. “Experimental validation of a prototype ejector designed to reduce throttling losses encountered in transcritical R744 system operation”. In: *International Journal of Refrigeration* 31.3 (2008), pp. 411–422.
- [49] M Yari and M Sirousazar. “Cycle improvements to ejector-expansion transcritical CO₂ two-stage refrigeration cycle”. In: *International Journal of Energy Research* 32.7 (2008), pp. 677–687.
- [50] Masafumi Nakagawa, Ariel R Marasigan, and Takanori Matsukawa. “Experimental analysis on the effect of internal heat exchanger in transcritical CO₂ refrigeration cycle with two-phase ejector”. In: *international journal of refrigeration* 34.7 (2011), pp. 1577–1586.
- [51] M Nakagawa et al. “Experimental investigation on the effect of mixing length on the performance of two-phase ejector for CO₂ refrigeration cycle with and without heat exchanger”. In: *international journal of refrigeration* 34.7 (2011), pp. 1604–1613.

- [52] Zhen-ying Zhang et al. “Theoretical evaluation on effect of internal heat exchanger in ejector expansion transcritical CO₂ refrigeration cycle”. In: *Applied Thermal Engineering* 50.1 (2013), pp. 932–938.
- [53] J Sarkar. “Performance characteristics of multi-evaporator transcritical CO₂ refrigeration cycles with hybrid compression/ejection”. In: *Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy* 224.6 (2010), pp. 773–780.
- [54] Jiwen Cen, Pei Liu, and Fangming Jiang. “A novel transcritical CO₂ refrigeration cycle with two ejectors”. In: *international journal of refrigeration* 35.8 (2012), pp. 2233–2239.
- [55] Tao Bai, Gang Yan, and Jianlin Yu. “Thermodynamics analysis of a modified dual-evaporator CO₂ transcritical refrigeration cycle with two-stage ejector”. In: *Energy* 84 (2015), pp. 325–335.
- [56] Tao Bai, Gang Yan, and Jianlin Yu. “Performance evolution on a dual-temperature CO₂ transcritical refrigeration cycle with two cascade ejectors”. In: *Applied Thermal Engineering* 120 (2017), pp. 26–35.
- [57] Meibo Xing, Jianlin Yu, and Xiaoqin Liu. “Thermodynamic analysis on a two-stage transcritical CO₂ heat pump cycle with double ejectors”. In: *Energy Conversion and Management* 88 (2014), pp. 677–683.
- [58] Elias Boulawz Ksayer and Denis Clodic. “Enhancement of CO₂ refrigeration cycle using an ejector: 1D analysis”. In: (2006).
- [59] Neal Lawrence and Stefan Elbel. “Analysis and Comparison of Two-Phase Ejector Performance Metrics for R134a and CO₂ Ejectors”. In: (2014).
- [60] Yang Chen, P Lundqvist, and P Platell. “Theoretical research of carbon dioxide power cycle application in automobile industry to reduce vehicle’s fuel consumption”. In: *Applied Thermal Engineering* 25.14-15 (2005), pp. 2041–2053.
- [61] H Kursad Ersoy and Nagihan Bilir. “Performance characteristics of ejector expander transcritical CO₂ refrigeration cycle”. In: *Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy* 226.5 (2012), pp. 623–635.
- [62] Zhenying Zhang and Lili Tian. “Effect of Suction Nozzle Pressure Drop on the Performance of an Ejector-Expansion Transcritical CO₂ Refrigeration Cycle”. In: *Entropy* 16.8 (2014), pp. 4309–4321.
- [63] E Rusly et al. “CFD analysis of ejector in a combined ejector cooling system”. In: *International Journal of Refrigeration* 28.7 (2005), pp. 1092–1101.
- [64] Yann Bartosiewicz, Z Aidoun, and Y Mercadier. “Numerical assessment of ejector operation for refrigeration applications based on CFD”. In: *Applied Thermal Engineering* 26.5 (2006), pp. 604–612.

- [65] Kulachate Pianthong et al. “Investigation and improvement of ejector refrigeration system using computational fluid dynamics technique”. In: *Energy Conversion and Management* 48.9 (2007), pp. 2556–2564.
- [66] X Yang, X Long, and X Yao. “Numerical investigation on the mixing process in a steam ejector with different nozzle structures”. In: *International Journal of Thermal Sciences* 56 (2012), pp. 95–106.
- [67] Yinhai Zhu and Peixue Jiang. “Experimental and numerical investigation of the effect of shock wave characteristics on the ejector performance”. In: *International journal of refrigeration* 40 (2014), pp. 31–42.
- [68] J Sierra-Pallares et al. “A computational study about the types of entropy generation in three different R134a ejector mixing chambers”. In: *International Journal of Refrigeration* 63 (2016), pp. 199–213.
- [69] Weina Fu et al. “Numerical study for the influences of primary steam nozzle distance and mixing chamber throat diameter on steam ejector performance”. In: *International Journal of Thermal Sciences* 132 (2018), pp. 509–516.
- [70] Y Bartosiewicz et al. “CFD-experiments integration in the evaluation of six turbulence models for supersonic ejector modeling”. In: *Integrating CFD and Experiments Conference, Glasgow, UK. 2003*.
- [71] Yann Bartosiewicz et al. “Numerical and experimental investigations on supersonic ejectors”. In: *International Journal of Heat and Fluid Flow* 26.1 (2005), pp. 56–70.
- [72] Federico Mazzelli et al. “Computational and experimental analysis of supersonic air ejector: Turbulence modeling and assessment of 3D effects”. In: *International Journal of Heat and Fluid Flow* 56 (2015), pp. 305–316.
- [73] Giorgio Besagni and Fabio Inzoli. “Computational fluid-dynamics modeling of supersonic ejectors: Screening of turbulence modeling approaches”. In: *Applied Thermal Engineering* 117 (2017), pp. 122–144.
- [74] S Croquer, S Poncet, and Z Aidoun. “Turbulence modeling of a single-phase R134a supersonic ejector. Part 1: Numerical benchmark”. In: *international journal of refrigeration* 61 (2016), pp. 140–152.
- [75] S Croquer, S Poncet, and Z Aidoun. “Turbulence modeling of a single-phase R134a supersonic ejector. Part 2: Local flow structure and exergy analysis”. In: *international journal of refrigeration* 61 (2016), pp. 153–165.
- [76] Jacek Smolka et al. “A computational model of a transcritical R744 ejector based on a homogeneous real fluid approach”. In: *Applied Mathematical Modelling* 37.3 (2013), pp. 1208–1224.

- [77] Krzysztof Banasiak et al. “A CFD-based investigation of the energy performance of two-phase R744 ejectors to recover the expansion work in refrigeration systems: An irreversibility analysis”. In: *International Journal of Refrigeration* 40 (2014), pp. 328–337.
- [78] Michal Palacz et al. “Application range of the HEM approach for CO₂ expansion inside two-phase ejectors for supermarket refrigeration systems”. In: *International Journal of Refrigeration* 59 (2015), pp. 251–258.
- [79] Michal Palacz et al. “CFD-based shape optimisation of a CO₂ two-phase ejector mixing section”. In: *Applied Thermal Engineering* 95 (2016), pp. 62–69.
- [80] Jacek Smolka et al. “Performance comparison of fixed-and controllable-geometry ejectors in a CO₂ refrigeration system”. In: *International Journal of Refrigeration* 65 (2016), pp. 172–182.
- [81] Michal Palacz et al. “HEM and HRM accuracy comparison for the simulation of CO₂ expansion in two-phase ejectors for supermarket refrigeration systems”. In: *Applied Thermal Engineering* 115 (2017), pp. 160–169.
- [82] Michal Haida et al. “Modified homogeneous relaxation model for the R744 trans-critical flow in a two-phase ejector”. In: *International Journal of Refrigeration* 85 (2018), pp. 314–333.
- [83] Wojciech Angielczyk et al. “1-D modeling of supersonic carbon dioxide two-phase flow through ejector motive nozzle”. In: 1102 (2010), p. 2165.
- [84] M Nakagawa, AR Marasigan, and T Matsukawa. “Inhomogeneous compressible numerical analysis with phase change of the mixing phenomenon in two-phase ejector using CO₂”. In: *Proc. Int. Conf. Multiphase Flow, Tampa, Florida, USA*. 2010.
- [85] Otto Redlich and Joseph NS Kwong. “On the thermodynamics of solutions. V. An equation of state. Fugacities of gaseous solutions.” In: *Chemical reviews* 44.1 (1949), pp. 233–244.
- [86] Zbigniew Bulinski et al. “A comparison of heterogenous and homogenous models of two-phase transonic compressible CO₂ flow through a heat pump ejector”. In: *IOP Conference Series: Materials Science and Engineering*. Vol. 10. 1. IOP Publishing. 2010, p. 012019.
- [87] Henry G Weller et al. “A tensorial approach to computational continuum mechanics using object-oriented techniques”. In: *Computers in physics* 12.6 (1998), pp. 620–631.
- [88] Michael Colarossi et al. “Multidimensional modeling of condensing two-phase ejector flow”. In: *International journal of refrigeration* 35.2 (2012), pp. 290–299.
- [89] Miad Yazdani, Abbas A Alahyari, and Thomas D Radcliff. “Numerical modeling of two-phase supersonic ejectors for work-recovery applications”. In: *International Journal of Heat and Mass Transfer* 55.21-22 (2012), pp. 5744–5753.

- [90] Christian Lucas et al. “Numerical investigation of a two-phase CO₂ ejector”. In: *International Journal of Refrigeration* 43 (2014), pp. 154–166.
- [91] Miad Yazdani, Abbas A Alahyari, and Thomas D Radcliff. “Numerical Modeling and Validation of Supersonic Two-Phase Flow of CO₂ in Converging-Diverging Nozzles”. In: *Journal of Fluids Engineering* 136.1 (2014), p. 014503.
- [92] Federico Mazzelli, Francesco Giacomelli, and Adriano Milazzo. “CFD modeling of condensing steam ejectors: Comparison with an experimental test-case”. In: *International Journal of Thermal Sciences* 127 (2018), pp. 7–18.
- [93] Francesco Giacomelli et al. “Experimental and computational analysis of a R744 flashing ejector”. In: *International Journal of Refrigeration* 107 (2019), pp. 326–343.
- [94] Alireza Ameli et al. “Numerical Sensitivity Analysis for Supercritical CO₂ Radial Turbine Performance and Flow Field”. In: *Energy Procedia* 129 (2017), pp. 1117–1124.
- [95] Alireza Ameli, Ali Afzalifar, and Teemu Turunen-Saaresti. “Non-equilibrium condensation of supercritical carbon dioxide in a converging-diverging nozzle”. In: *Journal of Physics: Conference Series*. Vol. 821. 1. IOP Publishing. 2017, p. 012025.
- [96] Masafumi Nakagawa, Menandro Serrano Serrano, and Atsushi Harada. “Shock waves in supersonic two-phase flow of CO₂ in converging-diverging nozzles”. In: *International Refrigeration and Air Conditioning Conference*. Purdue University e-Pubs. 2008, p. 2362.
- [97] Claudio Lettieri et al. “Characterization of nonequilibrium condensation of supercritical carbon dioxide in a de laval nozzle”. In: *Journal of Engineering for Gas Turbines and Power* 140.4 (2018), p. 041701.
- [98] Alireza Ameli, Teemu Turunen-Saaresti, and Jari Backman. “Numerical investigation of the flow behavior inside a supercritical CO₂ centrifugal compressor”. In: *Journal of Engineering for Gas Turbines and Power* 140.12 (2018), p. 122604.
- [99] E. W. Lemmon et al. *NIST Standard Reference Database 23: Reference Fluid Thermodynamic and Transport Properties-REFPROP, Version 10.0, National Institute of Standards and Technology*. 2018. DOI: <http://dx.doi.org/10.18434/T4JS3C>. URL: <https://www.nist.gov/srd/refprop>.
- [100] Roland Span and Wolfgang Wagner. “A new equation of state for carbon dioxide covering the fluid region from the triple-point temperature to 1100 K at pressures up to 800 MPa”. In: *Journal of physical and chemical reference data* 25.6 (1996), pp. 1509–1596.
- [101] Philip G Hill. “Condensation of water vapour during supersonic expansion in nozzles”. In: *Journal of Fluid Mechanics* 25.3 (1966), pp. 593–620.
- [102] CA Moses and GD Stein. “On the growth of steam droplets formed in a Laval nozzle using both static pressure and light scattering measurements”. In: *NASA STI/Recon Technical Report N 77* (1977).

- [103] Sławomir Dykas and Włodzimierz Wróblewski. “Single and two-fluid models for steam condensing flow modeling”. In: *International Journal of Multiphase Flow* 37.9 (2011), pp. 1245–1253.
- [104] Yan Yang et al. “CFD modeling of condensation process of water vapor in supersonic flows”. In: *Applied Thermal Engineering* 115 (2017), pp. 1357–1362.
- [105] Chang Hyun Kim et al. “Numerical analysis of non-equilibrium steam condensing flows in various Laval nozzles and cascades”. In: *Engineering Applications of Computational Fluid Mechanics* 11.1 (2017), pp. 172–183.
- [106] Jörg Starzmann et al. “Results of the international wet steam modeling project”. In: *Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy* 232.5 (2018), pp. 550–570.
- [107] Sławomir Dykas et al. “Analysis of the steam condensing flow in a linear blade cascade”. In: *Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy* 232.5 (2018), pp. 501–514.
- [108] Marius Grübel et al. “Modelling of condensing steam flows in Laval nozzles with ANSYS CFX”. In: *Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy* 232.5 (2018), pp. 571–575.
- [109] Krzysztof Banasiak and Armin Hafner. “Mathematical modelling of supersonic two-phase R744 flows through converging–diverging nozzles: The effects of phase transition models”. In: *Applied Thermal Engineering* 51.1 (2013), pp. 635–643.
- [110] Armin Hafner, Sven Försterling, and Krzysztof Banasiak. “Multi-ejector concept for R-744 supermarket refrigeration”. In: *International Journal of Refrigeration* 43 (2014), pp. 1–13.
- [111] SM Liao, TS Zhao, and Arne Jakobsen. “A correlation of optimal heat rejection pressures in transcritical carbon dioxide cycles”. In: *Applied Thermal Engineering* 20.9 (2000), pp. 831–841.
- [112] M Yari, V Zare, and SMS Mahmoudi. “Parametric study and optimization of an ejector-expansion TRCC cycle integrated with a water purification system”. In: *Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy* 227.3 (2013), pp. 383–398.
- [113] *A TRaNsient SYstems Simulation Program*. <https://sel.me.wisc.edu/trnsys/>. Accessed: 2021-05-18.
- [114] Pavel Makhnatch and Rahmatollah Khodabandeh. “The role of environmental metrics (GWP, TEWI, LCCP) in the selection of low GWP refrigerant”. In: *Energy Procedia* 61 (2014), pp. 2460–2463.

- [115] *Refrigerants for Commercial Refrigeration Systems*. http://www.hvacinfo.com/cope_ae_bulletins/4226-refrigerant_whtpaper.pdf. Accessed: 2021-01-31.
- [116] Moti L Mittal, Chhemendra Sharma, and Richa Singh. "Estimates of emissions from coal fired thermal power plants in India". In: *2012 International emission inventory conference*. 2012, pp. 13–16.
- [117] YT Ge and SA Tassou. "Control optimisation of CO₂ cycles for medium temperature retail food refrigeration systems". In: *International Journal of Refrigeration* 32.6 (2009), pp. 1376–1388.
- [118] YT Ge et al. "Design optimisation of CO₂ gas cooler/condenser in a refrigeration system". In: *Applied Energy* 160 (2015), pp. 973–981.
- [119] Sergio Girotto, Silvia Minetto, and Petter Neksa. "Commercial refrigeration system using CO₂ as the refrigerant". In: *International journal of refrigeration* 27.7 (2004), pp. 717–723.
- [120] Kapil Dev Choudhary, MS Dasgupta, et al. "Energetic and exergetic investigation of a N₂O ejector expansion transcritical refrigeration cycle". In: *Energy Procedia* 109 (2017), pp. 122–129.
- [121] ANSYS. *ANSYS CFX theory guide 18.1*. 2017.
- [122] Yan Yang et al. "Performance of supersonic steam ejectors considering the nonequilibrium condensation phenomenon for efficient energy utilisation". In: *Applied Energy* 242 (2019), pp. 157–167.
- [123] C Lettieri, D Yang, and Z Spakovszky. "An investigation of condensation effects in supercritical carbon dioxide compressors". In: *Journal of Engineering for Gas Turbines and Power* 137.8 (2015), p. 082602.
- [124] S Brown et al. "Modelling the non-equilibrium two-phase flow during depressurisation of CO₂ pipelines". In: *International Journal of Greenhouse Gas Control* 30 (2014), pp. 9–18.
- [125] A Nouri-Borujerdi and A Shafiei Ghazani. "Equilibrium and non-equilibrium gas–liquid two phase flow in long and short pipelines following a rupture". In: *AIChE Journal* 63.7 (2017), pp. 3214–3223.
- [126] Chuang Wen et al. "An efficient approach to separate CO₂ using supersonic flows for carbon capture and storage". In: *Applied energy* 238 (2019), pp. 311–319.
- [127] F Bakhtar et al. "Classical nucleation theory and its application to condensing steam flow calculations". In: *Proceedings of the Institution of Mechanical Engineers, Part C: Journal of Mechanical Engineering Science* 219.12 (2005), pp. 1315–1333.
- [128] Christelle Miqueu et al. "An extended scaled equation for the temperature dependence of the surface tension of pure compounds inferred from an analysis of experimental data". In: *Fluid phase equilibria* 172.2 (2000), pp. 169–182.

-
- [129] Peng Jianxin and Lu Yigang. “Estimation of the surface tension of liquid carbon dioxide”. In: *Physics and Chemistry of Liquids* 47.3 (2009), pp. 267–273.
- [130] CFX Ansys. “Reference Guide, Release 18.1”. In: *ANSYS Inc., Canonsburg, PA* (2017).
- [131] Menandro Serrano Berana, Masafumi Nakagawa, and Atsushi Harada. “Shock waves in supersonic two-phase flow of CO₂ in converging-diverging nozzles”. In: *HVAC&R Research* 15.6 (2009), pp. 1081–1098.
- [132] G Gyarmathy. “Nucleation of steam in high-pressure nozzle experiments”. In: *Proceedings of the Institution of Mechanical Engineers, Part A: Journal of Power and Energy* 219.6 (2005), pp. 511–521.
- [133] Christophe Geuzaine and Jean-François Remacle. “Gmsh: A 3-D finite element mesh generator with built-in pre-and post-processing facilities”. In: *International journal for numerical methods in engineering* 79.11 (2009), pp. 1309–1331.
- [134] Giorgio Soave. “Equilibrium constants from a modified Redlich-Kwong equation of state”. In: *Chemical engineering science* 27.6 (1972), pp. 1197–1203.
- [135] *OpenFOAM Standard utilities*. <https://www.openfoam.com/documentation/user-guide/a-reference/a.2-standard-utilities>. Accessed: 2021-04-17.