

ANFIS Prediction Using Neuro-Fuzzy Model of Experimental Study on Concentric Tube Heat Pipe Heat Exchanger Using Acetone

Link: https://link.springer.com/chapter/10.1007/978-981-19-3053-9_47

The screenshot shows the top portion of a Springer chapter page. At the top, there is a navigation bar with the book title "Materials, Design and Manufacturing for Sustainable Environment" and page numbers "pp 613–626". Below this, the breadcrumb trail reads "Home > Materials, Design and Manufacturing for Sustainable Environment > Conference paper". The main title "ANFIS Prediction Using Neuro-Fuzzy Model of Experimental Study on Concentric Tube Heat Pipe Heat Exchanger Using Acetone" is displayed in a large, bold font. Below the title, the authors "P. Ramkumar, A. Kajavali, S. Ramasamy, C. M. Vivek & M. Sivasubramanian" are listed. The text "Conference paper | First Online: 29 September 2022" and "373 Accesses" are also visible. On the right side, there is a pricing section with a blue button "Access via your institution" and a list of purchase options: "Chapter" for EUR 29.95, "eBook" for EUR 117.69, and "Softcover Book" for EUR 149.99. A "Buy Chapter" button is also present.

This screenshot shows the abstract and keywords section of the same Springer chapter page. The abstract text reads: "To safeguard the electronic cooling systems and also to utilize the excess heat in the components, the heat pipe is implemented. The study deals with the design of a concentric tube heat pipe heat exchanger (CTHPHE) using acetone and water. The investigation is carried out for (0° and 90°) and further with inclination angles (10°–80°). The result shows that the higher values are obtained for 0° than 90°, similarly in case of inclination angles, the 60° possess maximum while relating with 10°. The increment in effectiveness, heat transfer coefficient, observed for 60° than 10° as 36.3%, 58.49%. The observed average experimental value for effectiveness as 50.84% and predicted value as 49.52%. The experiment it is warranted for acetone demonstrated enhanced results, and results are compared with numerical analysis using neuro-fuzzy system. The results indicated that the heat pipe heat exchanger appropriateness for application involving heat dissipation in waste heat recovery systems." Below the abstract, the "Keywords" section includes "Heat pipe heat exchanger", "ANFIS", "Effectiveness", and "Electronic cooling system". On the right side, the pricing section is repeated, showing the "Chapter" price at EUR 29.95, "eBook" at EUR 117.69, and "Hardcover Book" at EUR 149.99. A "Buy Chapter" button is also visible. At the bottom right, there are tabs for "Sections" and "References".

