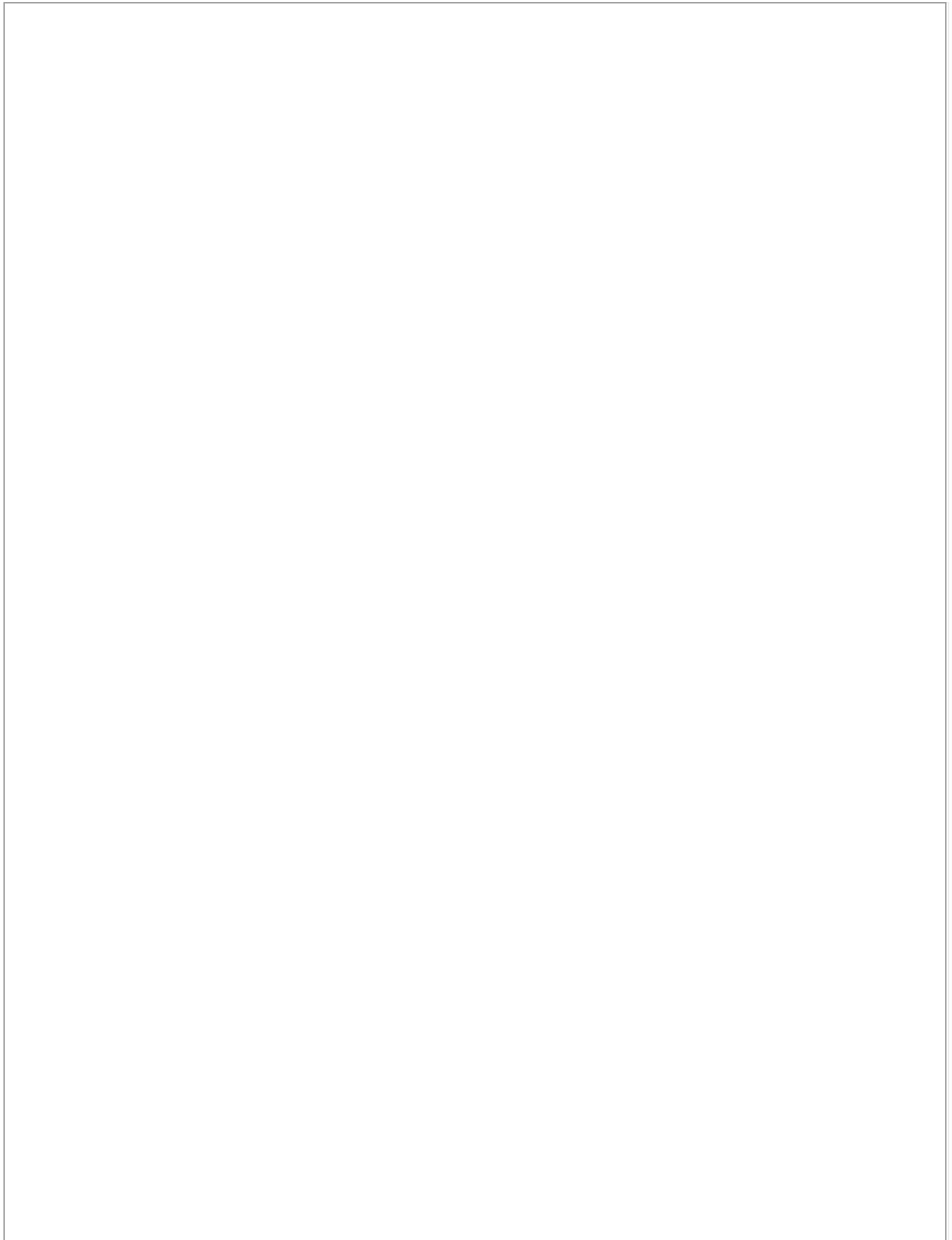


## Documents



Dennis Quadros, J.<sup>a</sup>, Khan, S.A.<sup>b</sup>, Prashanth, T.<sup>c</sup>, Iqbal Mogul, Y.<sup>d</sup>, Hanumanthraya, R.<sup>e</sup>, Abbas, M.<sup>f,g</sup>, Saleel, C.A.<sup>h</sup>, Shaik, S.<sup>i</sup>

**Heat Transfer Characteristics of Fullerene and Titania Nanotube Nanofluids under Agitated Quench Conditions**  
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<sup>a</sup> Faculty of Mechanical Engineering, Istanbul Technical University, İstanbul, 34437, Turkey

<sup>b</sup> Department of Mechanical Engineering, Faculty of Engineering, International Islamic University Malaysia, Selangor, Kuala Lumpur, 53100, Malaysia

<sup>c</sup> Department of Mechanical Engineering, Global Academy of Technology, Karnataka, Bengaluru, 560098, India

<sup>d</sup> National Centre for Motorsport Engineering, University of Bolton, Deane Road, Bolton, BL3 5AB, United Kingdom

<sup>e</sup> School of Mechanical Engineering, Reva University, Karnataka, Bengaluru, 560064, India

<sup>f</sup> Electrical Engineering Department, College of Engineering, King Khalid University, Abha, 61421, Saudi Arabia

<sup>g</sup> Electronics and Communications Department, College of Engineering, Delta University for Science and Technology, Gamasa, Mansoura, 35712, Egypt

<sup>h</sup> Department of Mechanical Engineering, College of Engineering, King Khalid University, PO Box 394, Abha, 61421, Saudi Arabia

<sup>i</sup> School of Mechanical Engineering, Vellore Institute of Technology, Tamil Nadu, Vellore, 632014, India

**Abstract**

Distilled water and aqueous fullerene nanofluids having concentrations of 0.02, 0.2, and 0.4 vol % and titania (titanium dioxide, TiO<sub>2</sub>) nanofluids of 0.0002, 0.002, and 0.02 vol % were analyzed for heat transfer characteristics. Quenching mediums were stirred at impeller speeds of 0, 500, 1,000, and 1,500 RPMs in a typical Tensi agitation system. During the quenching process, a metal probe made of ISO 9950 Inconel was used to record the temperature history. The inverse heat conduction method was used to calculate the spatial and temporal heat flux. The nanofluid rewetting properties were measured and matched to those of distilled water. The maximum mean heat flux was 3.26 MW/m<sup>2</sup>, and the quickest heat extraction was 0.2 vol % fullerene nanofluid, according to the results of the heat transfer investigation. © 2022 The Authors. Published by American Chemical Society.

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**Correspondence Address**

Dennis Quadros J.; Faculty of Mechanical Engineering, Turkey; email: jaimonq@gmail.com

Shaik S.; School of Mechanical Engineering, Tamil Nadu, India; email: saboor.nitk@gmail.com

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