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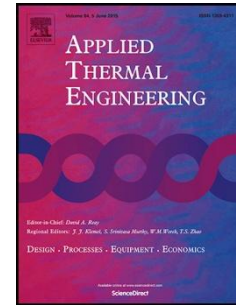
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1 **Experimental research on thermal characteristics of loop heat pipe**  
2 **with liquid guiding holes**

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8 **Research highlights:**

- 9 • A loop heat pipe (LHP) with liquid guiding holes (LGHS) was  
10 developed.
- 11 • The working principle of the LHP with (LGHS) was introduced.
- 12 • Start-up performance, transient performance and temperature  
13 oscillation were analyzed.
- 14 • Different thermal performance of the LHP with different heat  
15 supplied and the tilt angle were observed.

16 **Abstract:**

17 In the present study, the thermal characteristics of a loop heat pipe (LHP) with four  
18 lines of liquid guiding holes (LGHS) distributed along the bayonet were  
19 experimentally investigated. The loop was made of aluminum with nickel wick, and  
20 the working fluid was water. Experiments were conducted on the start-up, transient  
21 performance and the temperature oscillation of the LHP with LGHS at the heat loads  
22 from 70W to 220W, and the tilt angles between evaporator and compensation chamber  
23 (CC) from 0° to 10°. It was found that with the increase of tilt angle from 0° to 10°,

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