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Title: Enhanced thermal properties of nanodiamond nanofluids

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## High lights

- The ultra-dispersed diamond nanopowders were treated strong acid treatment in order to make single nanodiamond particles.
- The stable nanodiamond nanofluids were prepared by dispersing in ethylene glycol/water mixtures.
- At 1.0% vol., thermal conductivity enhancements are 17.8%, 14.2% and 11.4% for ND/20:80, ND/40:60 and ND/60:40 nanofluids.
- At 1.0% vol., viscosity enhancements are 2.74-times, 1.73-times and 1.92-times for ND/20:80, ND/40:60 and ND/60:40 nanofluids.
- Theoretical approach was used to understand the heat transfer benefits of nanofluids in laminar-turbulent flow.

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