

# A Fast-Reversed DC Measurement with a Josephson Voltage Source

Ac-dc transfer difference due to thermoelectric effects in a thermal converter was evaluated using a NbN/TiN/NbN Josephson junction array as an ultra-stable Fast-Reversed DC (FRDC) source. The Josephson junction array was connected in parallel with a conventional semiconductor FRDC current source, as an "add-on" voltage-stabilizer for the input of the thermal converter. The ac-dc difference due to thermoelectric effects was evaluated with standard measurement (type-A) uncertainty of the order of  $0.01 \mu\text{V}/\text{V}$ , four-times better than that for the conventional semiconductor FRDC source.



Measurement set-up for a Josephson-based Fast-Reversed DC

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