

Simplified Analysis of Direct SQUID Readout Schemes

D. Drung

Physikalisch-Technische Bundesanstalt (PTB),
Abbestrasse 2-12, D-10587 Berlin, Germany

E-mail: dietmar.drung@ptb.de

Abstract - A simple approach to understand and analyze direct readout schemes for Superconducting QUantum Interference Devices (SQUIDs) is presented. It is shown that the existing methods for suppression of room temperature amplifier noise are based on voltage feedback and current feedback in the SQUID that were introduced in the original schemes of additional positive feedback (APF) and bias current feedback (BCF). It is also shown that the way the SQUID is biased (at constant current or voltage) does not affect the noise suppression.

Keywords – SQUID, readout, amplifier, noise, current feedback, voltage feedback; PACS 85.25.Dq

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