



SFB/TRR 21 - Seminar

20. Oktober 2011, Tübingen

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### Negative resistance in BSCCO type stacked Josephson junctions

Electromagnetic radiation from BSCCO type layered Josephson junctions at THz frequencies could have many important applications, for example as a local oscillator in an integrated receiver, a spectrometer, an imaging device etc. The THz emission may be related to a negative resistance in a similar way as a positive resistance is connected to dissipation. Three examples will be presented: (i) A stacked BSCCO junction coupled to an 'intrinsic cavity', (ii) A negative input resistance caused by a large applied electromagnetic signal, and (iii) a region of negative differential slope in the (quasiparticle) IV curve.

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