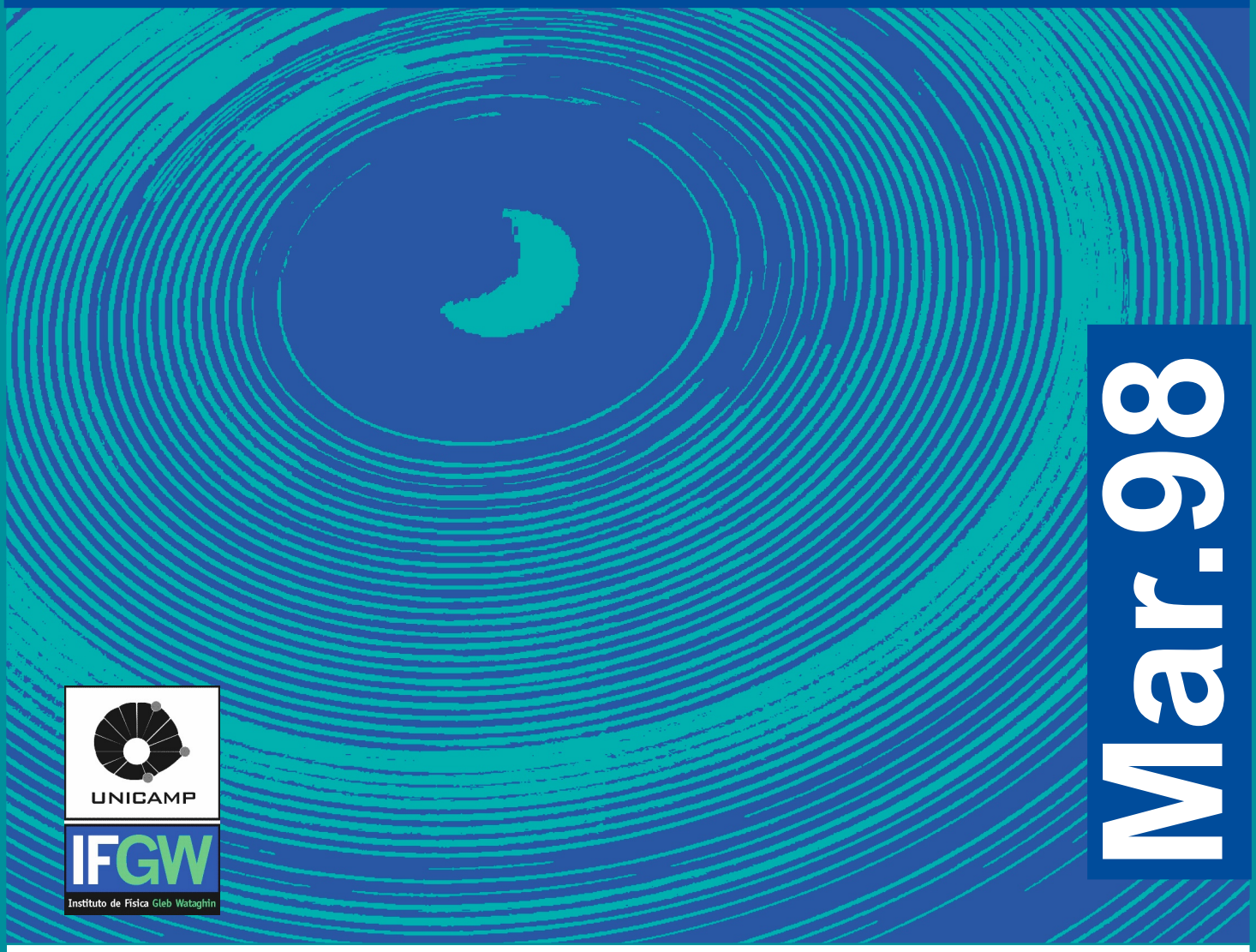
Abstracta

Ano II - N. 02



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Trabalhos Aceitos para Publicação

A005-99 à A008-99

ACCEPTED PAPERS FOR JOURNAL PUBLICATION

A 005-98 Nonlocal in-plane Resistance in High-TC Superconducting Films in the Vicinity of a Kosterlitz-Thouless-Type Transition.

Y. Kopelevich, F. Ciovacco, P. Esquinazi and H. F. Braun.

We have measured the nonlocal in-plane resistance in high-Tc superconducting YBa2Cu3O7-d films. The results obtained in zero magnetic field show a negative nonlocal resistance in the vicinity of the Kosterlitz-Thouless-type vortex-antivortex unbinding transition, as it was predicted recently by Wortis and Huse . We also found that the negative nonlocal resistance takes place within a certain domain of the current temperature diagram. Our findings indicate that nonlocal masurements in "planar" geometry can be a new method to study vortex dynamics in superconductors.

Journal of Low Temperature Physics 111 (1-2), 11-17, Abr 1998

A 006-98 Production and Optical of Steady State Photinjected Plasmas in Quantum Wires.

S. A. Hansan, A. R. Vasconcellos and R. Luzzi.

We describe the production and the optical properties of the non-equilibrium photoinjected plasma in semiconductor quantum wires under continous UV-light illumination. The wavenumber-dependent dynamic dielectric funciton of this system is derived and the Raman scattering cross-secion calculated. From the latter we identify the contributions from different types of elementary excitations. They consist of, besides the single-particle excitations, two types of collective oscillations: An upper one, consisting of an intrasubband-like plasmon and a lower one, identified as an acoustic-like plasmon. The dependence of both on the non-equilibrium (dissipative) macroscopic state of the system is evidenced and discussed.

Solid State Communications 106 (5), 253-257, 1998

A 007-98 A Theta-pinch as a Spectroscopic Light Source.

F. R. T. Luna, G. H. Cavalcanti and A. G. Trigueiros.

The aim of this work is to describe a theta-pinch for spectroscopic studies. This machine is different in some aspects from its equivalent for fusion studies. Here, in a single experiment, 1000 shots are used normally. The condenser bank stores 14kJ of electrical energy at 60 kV, however 1 kJ only is necessary to obtain electron peak temperature of 150 eV, which is enough to produce a good emission spectrum in VUV range of 300 to 2000 Å. With this device, it is possible to obtain intermediate ionisation states of many elements (six or seven times ionised). Similarly to tokamaks, the theta-pinch spectrum contains spectral lines due to forbidden transitons, where the D s = 0 rule for dipole electric transition is violated.

Journal of Physics D: Applied Physics 31 (7), 866-872, 1998

A 008-98 Sprayed SnO2 Antireflection Coating on Textured Silicon Surface for Solar Cell Applications.

F. C. Marques

This paper reports the use of SnO2 antireflection coatings deposited through direct liquid spraying of an aqueous solution of SnCl4 on randomly upward pyramid textured (100)-Si solar cells. In spite of the adverse characteristic of the process used, the pyramid-like texture was preserved after the film depositon. The hemispherical reflectance of the sprayed-SnO2/textured-Si structure was compareble to those obtained using conventional techniques.

IEEE Transactions on Electron Devices 45 (7), 1619-1622, 1998

Abstracta

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