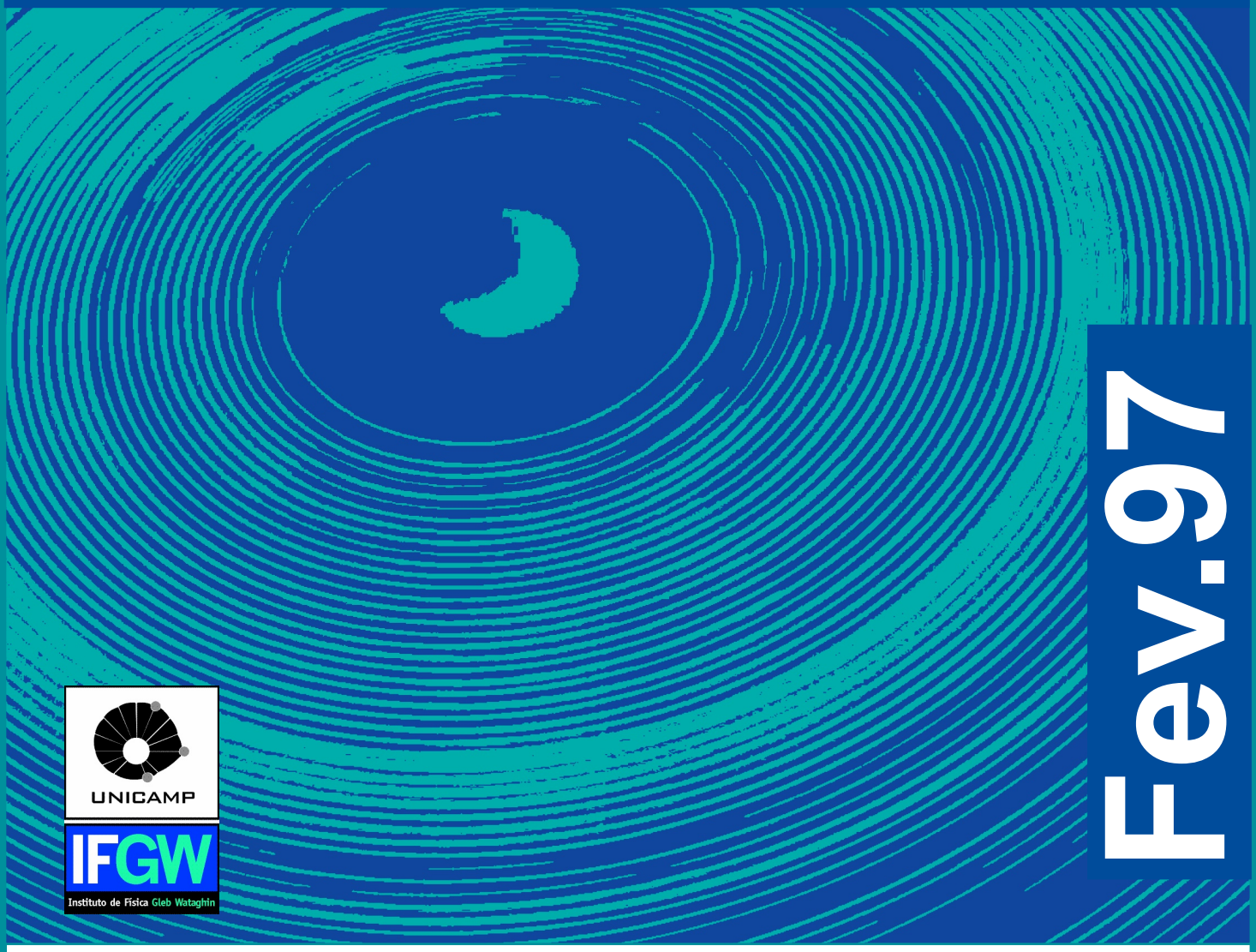
Abstracta

Ano I - N. 02



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Trabalhos Aceitos para Publicação

A003-97 à A004-97

Trabalhos Submetidos à Publicação

P005-97 à P006-97

Accepted papers

[A003-97] "Magneto-Impedance Aftereffect in a Soft Magnetic Amorphous Wire."

M. Knobel, M. L. Sartorelli e J. P. Sinnecker

A slow relaxation of the high-frequency impedance is observed in a $Co_{68.25}Fe_{4.5}Si_{12.25}B_{15}$ amorphous wire after nucleation of a new domain pattern in a previously saturated sample. The observed impedance decay follows a quasi-logarithmic kinetics, and it is probably associated with the low-field a.c. magnetic permeability aftereffect of the circular domain walls. The impedance drop achieves relative amplitudes up to 1%, 16s after the removal of the saturating external field. The effect is studied under typical magneto-impedance experimental conditions, varying both a.c. current (field) amplitude and frequency. Although completely undesirable for many technical applications, the unique kinetic features of the impedance afterefect may be exploited to study the circular magnetization processes under extreme domain-wall velocities.

Physical Review B 55 (6), R3362-R3365, 1997

[A004-97] "Effect of Tensile Stress on the Field Response of Impedance in Low Magnetostriction Amorphous Wires."

M. Knobel, M. Vázquez, M. L. Sánchez e A. Hernando

The influence of magnetoelastic anisotropy on the giant magneto-impedance (GMI) effect is studied for positive and negative magnetostriction amorphous wires of compositions $Fe_{4.9}Co_{71.8}Nb_{0.8}Si_{7.5}B_{15}$ and $Co_{68.1}Fe_{4.4}Si_{12.5}B_{15}$, respectively. A careful investigation of the impedance as a function of applied magnetic field and tensile stress is presented for two different frequencies (f=5 kHz and f=100 kHz) of the driving current. Clear maxima develop in both the resistive and reactive components of the impedance, which shift towards larger fields (in the vicinity of the anisotropy field) as the magnetoelastic anisotropy is increased. Some distinctive aspects found in the field behaviour of both in-phase and quadrature componets of the reflect the complexity of the GMI effect, which depends on the field dependence of the circular magnetic permeability. A detailed discussion about the stress dependence of the basic magnetization processes and their influence in the impednce response is presented.

Journal of Magnetism and Magnetic Materials 169 (1-2), 89-97, 1997

Submitted papers

[P005-97] "Study of Paramagnetic Frozen States in Superconducting Nb and Ta samples."

O. F. de Lima, M. A. Avila e C. A. Cardoso

Experimental evidence of paramagnetic frozen states (or paramagnetic Meissner effect) for Nb and Ta samples is presented. A surface layer of higher Tc(H), caused by a higher k shell in Nb and by surface superconductivity in Ta, is the mechanism proposed to explain flux trapping and its compression when cooling the sample.

Physica C : Supercondutivity 282 (4), 2201-2202, 1997

[P006-97] "Diamagnetic Peaks in Magnetization Versus Temperature Curves Caused by Flux Trapped Relaxation Observed in $YBa_2Cu_3O_{7-d}$ Samples."

O. F. de Lima e R. A. Ribeiro

We present the results and interpretations for two type of diamagnetic peaks observed in magnetization versus temperature curves, taken for field cooled on warming (FCW) experiments in $YBa_2Cu_3O_{7-d}$ samples. The high field data (2.0)

Physica C: Superconductivity 282 (4), 2251-2252,1997

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Nota: Arquivo gerado em out/2011 tendo como base as informações da edição do Abstracta distribuída na época. O arquivo original não foi preservado.

Abstracta

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