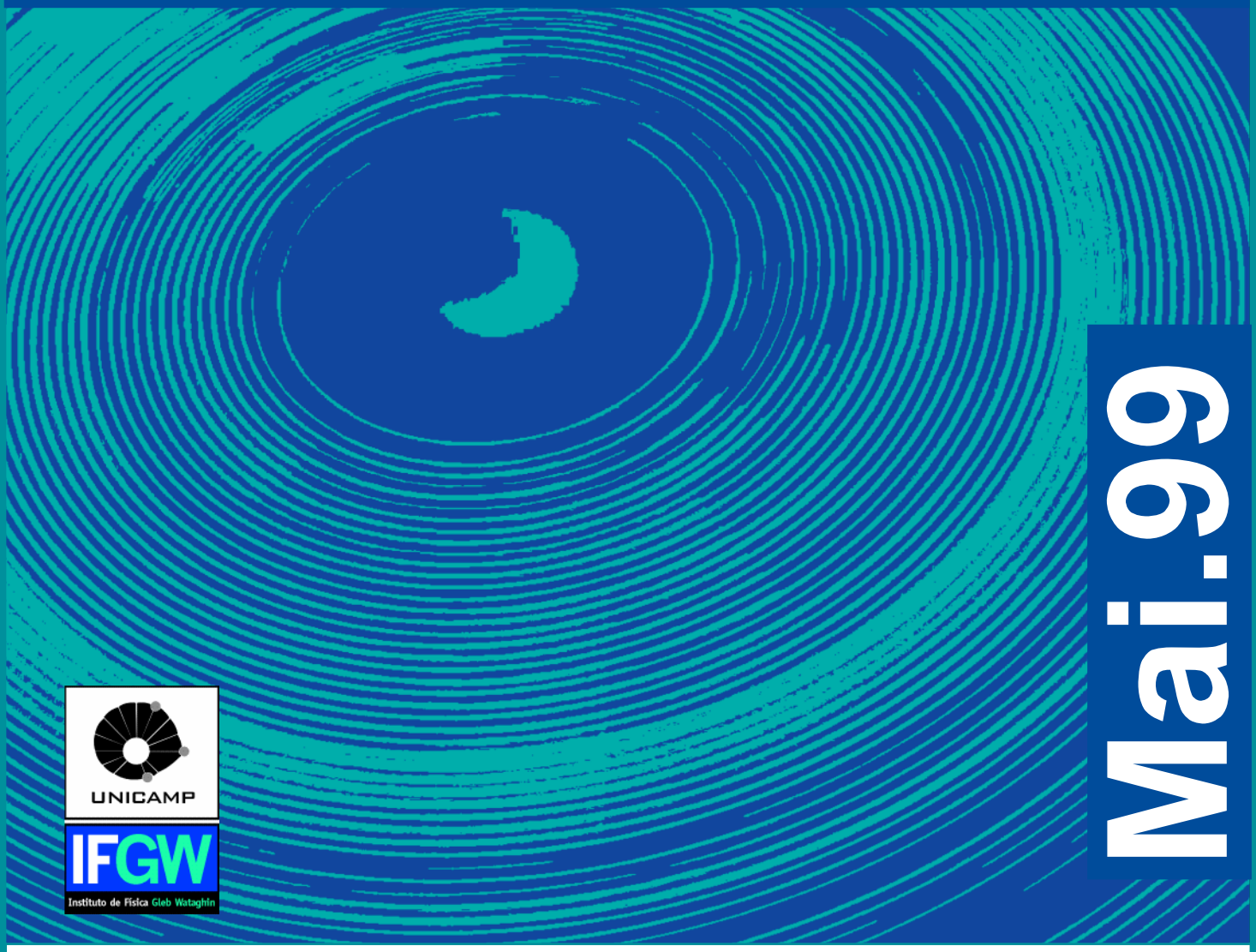
Abstracta

Ano III - N. 04



Mai.99

UNICAMP

IFGW
Instituto de Física Gleb Wataghin

Trabalhos Aceitos para Publicação em Periódicos

A025-99 à A030-99

Trabalhos Aceitos para Apresentação em Conferências

C001-99

Accepted papers

[A025-99] "Complex Behavior in Biosystems: an information-theoretic approach."

A. R. Vasconcellos, M. V. Mesquita, R. Luzzi

The particular question of transport of vibrational energy in biosystems is considered within the scope of Fröhlich-Davydov's model. It is shown that Davydov's solitary waves, strongly damped in near equilibrium conditions, can display long-range propagation when travelling in Fröhlich's condensate. The latter consists in the emergence of a self-organized dissipative structure (in Prigogine's sense), resembling a nonequilibrium Bose-Einstein-like condensation in the low-lyring in frequency modes of vibration, once a critical level a pumping of metabolic energy is achieved.

Chaos, Solitons & Fractals 11 (8), 1313-1325, 1999

[A026-99] "The Origin of Visible Photoluminescence in Low Power a-Si1-xCx:H with X > 0.2"

L. R. Tessler

Photoluminescence decay measurements were performed in a series of a-Si1-xCx:H samples with 0 < x < 0.5 prepared in the low power regime, i.e., containing virtually no sp2 carbon. The decay is non-exponential and presents two peaks in the lifetime distribution for x > 0.2, one slow peak associated to a-Si:H-like luminescence and a fast peak that is responsible for the temperature independent visible luminescence. We conclude that the efficient temperature independent visible photoluminescence is due to a mechanism that is ineffective in a-Si:H, which we attribute to enhanced Coulomb interaction between electron and hole.

Solid State Communications 111 (4), 193-197, 1999

[A027-99] "Analysis on the Diffractive Production of W's and Dijets at the DESY HERA and Fermilab Tevatron Colliders."

R. J. M. Covolan e M. S. Soares

Hadronic processes in which hard diffractive production takes place have been observed and analyzed in collider experiments for several years. The experimental rates of diffractive W's and dijets measured at the Tevatron and the cross sections of diffractively produced dijets recently obtained at the HERA experiment are the object of this analysis. We use the Pomeron structure function obtained from the HERA data by two different approaches to calculate the rates and cross sections for these processes. The comparison of theoretical predictions with the measured values reveals some discrepancies that make evident conceptual difficulties with such approaches. A new version of the Ingelman-Schlein model is proposed as an attempt to overcome such difficulties and make theory and data compatible.

Physical Review D 60 (5), 054005, 1999

[A028-99] "Light Induced Electron Spin Resonance in a-Ge:H"

F. C. Marques, M. M. de Lima Jr., P. C. Taylor

We report the first observation of light-induced electron spin resonance (LESR) in amorphous hydrogenated germanium (a-Ge:H). Two new lines with zero crossings near g=2.01 and g=2.03 were detected and ascribed to electrons and holes in the conduction- and valence-band-tail states, respectively. The ratio between the LESR spin densities of both lines is approximately one, suggesting the absence of spin pairing, charge defect creation or LESR of dangling bonds. The growth and decay spectra exhibit dispersive behavior with a dispersion parameter ~0.5. The decay spectrum is best fit assuming bimolecular recombination. The LESR spin density depends weakly on the photo-generation rate as a sublinear power law.

Applied Physics Letters 74 (25), 3797-3799, 1999

[A029-99] "Spatial composition dependence in InGaP growth on pre-patterned GaAs substrates by Chemical Beam Epitaxy."

M. P. P. de Castro, N. C. Frateschi, J. Bettini, C. A. Ribeiro, M. M. de Carvalho

We have investigated the spatial composition variation in InGaP layers grown by chemical beam epitaxy (CBE) on pre-patterned substrates. At growth temperature of 540°C, no difference between In and Ga growth properties is observed. At 500°C, we observe the onset of new crystalline planes on the side walls of the pre-patterned structure. Finally, we show how these planes are related to a measured strong spatial composition variation.

Journal of Crystal Growth 203 (3), 317-326, 1999

[A030-99] "Visible Lasers with Subhertz Linewidths."

B. C. Young, F. C. Cruz, W. M. Itano, J. C. Bergquist

We report a visible laser with a subhertz linewidth for use in precision spectroscopy and as a local oscillator for an optical frequency standard. The laser derives its stability from a well-isolated, high-finesse, Fabry-Pérot cavity. For a 563 nm laser beam locked to our stable cavity, we measure a linewidth of 0.6 Hz for averaging times up to 32 s. The fractional frequency instability for the light locked to the cavity is typically 3 x 10 -16 at 1 s. Both the linewidth and fractional frequency instability are approximately an order of magnitude less than previously published results for stabilized lasers.

Physical Review Letters 82, 3799, 1999

Accepted papers for conference presentation

C001-99 "Kno and Geometrical Scaling Violations: a quantitative correlation."

P. C. Beggio, M. J. Menon, P. Valin

We correlate quantitatively the violations of scalings in multiplicity distributions (Koba-Nielsen-Olesen) and elastic scattering (Geometrical) at high energies in pp and ` pp reactions. This is done by using the observed BEL (Blacker-Edgier-Larger) behaviour of the inelastic overlap function Gin (b,s) in impact parameter space and suitable parametrizations for the quantities associated with elementary hadronic processes.

In: Proceedings of the 10th Working Group on Hadronic Interactions", 29-31 March 1999, Rio de Janeiro, 62-67, 1999

Last update: 11:49 01/06/99
Tânia Macedo Folegatti

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

Abstracta

Instituto de Fisica
Diretor: Prof. Dr. Carlos H. de Brito Cruz
UNICAMP
Cidade Universitária Zeferino Vaz
13083-859 - Campinas - SP - Brasil
e-mail: secdir@ifi.unicamp.br
Fone: 0XX 19 3521 - 5300

Publicação

Biblioteca do Instituto de Física Gleb Wataghin
http://webbif.ifi.unicamp.br
Diretora Técnica: Rita Aparecida Sponchiado

Elaboração
Tânia Macedo Folegatti
abstract@ifi.unicamp.br

Projeto Gráfico
ÍgneaDesign

Impressão
Gráfica Central - Unicamp