

Curriculum vitae of Enrico Giolotto

Present position

Since 1998 I am assistant professor of Experimental Physics at the Faculty of Sciences - Department of Physics A. Volta - University of Pavia – Italy.

Academic qualifications

- Degree in Physics with distinction in 1988 at the University of Pavia.
- Doctoral degree in Physics in 1993 at the University of Pavia.

Other qualifications

- Fellowship from EniChem (1989-90) for the characterization of non-linear optical properties of organic compounds.
- Post-doc fellowship from the University of Pavia in 1994.
- “Human Capital and Mobility” fellowship from the European Union, which allowed me to spend 13 months (1995-1996) at the Daresbury Laboratory (Great Britain).

Main teaching activities

- In the academic year 2000/2001 I taught the course of Physics of Materials in the University of Pavia.
- I was supervisor in several students' thesis.
- Since the academic year 2004/2005 I have been teaching the Physics course for undergraduate Biology students in the University of Pavia.

Research activity

- Characterization of ferroelectric micro-regions in $K_{1-x}Na_xTaO_3$ by means of optical second harmonic generation (SHG) and linear birefringence.

- Study of the origin of polar configuration in $K_{1-x}Li_xTaO_3$ by means of SHG and linear birefringence.
- Study of polar order in $K_{1-x}Li_xTaO_3$ e $KTa_{1-x}Nb_xO_3$ by the analysis of soft and hard phonons Raman lines.
- Study of the structural properties of the relaxor ferroelectric $PbMg_{1/3}Nb_{2/3}O_3$ by means of optical techniques.
- Study of photo-induced charge effects in $K_{1-x}Li_xTaO_3$.
- Study of mesostructures in modified oxide glasses by small-angle X-ray scattering (SAXS).
- Study of phase transitions in $K_{1-x}Li_xTa_{1-y}Nb_yO_3$.
- Characterization of planar waveguides in $LiNbO_3$.
- Study of shallow defects in $KTaO_3$ by means of photoconductivity (PC), thermally stimulated conductivity (TSC), photoluminescence (PL), and thermoluminescence (TL).
- Study of the consequences of photorefractive activity on the Raman spectra of $LiNbO_3$.
- Study of the fluorescence proprieties of fossil ambers.
- Study of the high-dielectric-constant material $CaCu_3Ti_4O_{12}$ by means of EPR and micro-Raman spectroscopy.
- Raman scattering investigation of ferroelectricity in $K_{1-x}Rb_xTa_{1-y}Nb_yO_3$.
- Raman scattering investigation of III-V semiconductor heterostructures. In particular: planar $GaAsN/GaAsN:H$ heterostructures.
- Investigation of functionalized silver nanoparticles by means of Surface Enhanced Raman Scattering.

Scientific publications

E. Giolotto, M. Geddo, M. Patrini, G. Guizzetti, M.S. Sharma, M. Capizzi, A. Polimeni, G. Pettinari, S. Rubini, M. Felici

Strain related relaxation of the GaAs-like Raman mode selection rules in hydrogenated GaAs_{1-x}N_x layers

J. Appl. Phys. **125**, 175701 (2019)

B. Bassi, G. Dacarro, P. Galinetto, E. Giolotto, N. Marchesi, A. Pascale, S. Perversi, A. Taglietti

Tailored coating of gold nanostars: rational approach to prototype of theranostic device based on SERS and photothermal effects at ultralow irradiance

Nanotechnology **29**, 235301 (2018)

P. Galinetto, A. Taglietti, L. Pasotti, P. Pallavicini, G. Dacarro, E. Giolotto, M. S. Grandi

SERS activity of silver nanoparticles functionalized with a desferrioxamine B derived ligand for Fe(III) binding and sensing

J. Appl. Spectr. **82**, 1052 (2016)

E. Giolotto, M. Geddo, M. Patrini, G. Guizzetti, M. Felici, M. Capizzi, A. Polimeni, F. Martelli, S. Rubini

H irradiation effects on the GaAs-like Raman modes in GaAs_{1-x}N_x/GaAs_{1-x}N_x:H planar heterostructures

J. Appl. Phys. **116**, 245304 (2014)

M. Geddo, E. Giolotto, M.S. Grandi, M. Patrini, R. Trotta, A. Polimeni, M. Capizzi, F. Martelli, S. Rubini

An all optical mapping of the strain field in GaAsN/ GaAsN:H wires

Appl. Phys. Lett. **101**, 191908 (2012)

E. Giolotto, M. Geddo, M.S. Grandi, G. Guizzetti, G. Trevisi, L. Seravalli, P. Frigeri, S. Franchi

Raman scattering in InAs/AlGaAs quantum dot nanostructures

Appl. Phys. Lett. **98**, 111903 (2011)

P. Galinetto, D. Grando, M. C. Mozzati. C, D. Ballarini, E. Giolotto

Structural and optical defects in LiNbO₃ crystals induced by femtosecond laser irradiation

Phys. Stat. Sol. (c), Current Topics in Solid State Physics **4**, pp. 1329 (2007)

E. Giolotto, V. Stasi, P. Galinetto, F. Rossella, G. Samoggia, V. Trepakov, P. Syrnikov, L. Jastrabik

Ferroelectricity in K_{0.992}Rb_{0.008}Ta_{0.96}Nb_{0.04}O₃

Ferroelectrics **320**, 575 (2005)

P. Galinetto, F. Rossella, E. Giolotto, G. Samoggia, V. Trepakov, L. Jastrabik, P. Syrnikov, S. Kapphan

Photoinduced charge transport in KTaO₃:Be

Phys. Stat. Sol. (c) **2**, 184 (2005)

V. Bellani, E. Giolotto, L. Linati, D. Sacchi

Origin of the blue fluorescence in Dominican amber

J. Appl. Phys. **97**, 16101 (2005)

E. Giolotto, R. De Contardi, F. Rossella, V. Bermudez

Relationship between photorefractive activity and Raman scattering in lithium niobate crystals

Opt. Mater. **27**, 81 (2004)

E. Giolotto, M.C. Mozzati, C.B. Azzoni, V. Massarotti, D. Capsoni, M. Bini

New remarks on the high-polarizability perovskite-related material $\text{CaCu}_3\text{Ti}_4\text{O}_{12}$
Ferroelectrics **298**, 61 (2004)

E. Giulotto, R. De Contardi, F. Rossella, V. Bermudez

Forbidden Raman scattering in pure and doped lithium niobate

OSA Trends in Optics and Photonics Vol. **87**, Photorefractive Effects, Materials, and Devices, P. Delaye, C. Denz, L. Mager, and G. Montemezzani, eds. (2003)

V.V. Laguta, M.D. Glinchuk, I.P. Bykov, A. Cremona, P. Galinetto, E. Giulotto, L. Jastrabik, J. Rosa
Light-induced defects in KTaO_3
J. Appl. Phys. **93**, 6056 (2003)

V.V. Laguta, M.D. Glinchuk, I.P. Bykov, A. Cremona, P. Galinetto, E. Giulotto, L. Jastrabik, J. Rosa
Shallow traps in pure KTaO_3 crystals
Radiation Effects and Defects in Solids **157**, 721 (2002)

P. Galinetto, E. Giulotto, G. Samoggia, V. Trepakov, S. Kapphan, L. Jastrabik, L.A. Boatner
Study of dipole ordering in $\text{K}_{1-x}\text{Li}_x\text{Ta}_{1-y}\text{Nb}_y\text{O}_3$ by Raman spectroscopy
Jpn. J. Appl. Phys. **41**, 7181 (2002)

V. Trepakov, P. Galinetto, E. Giulotto, G. Samoggia, M. Savinov, V. Vikhnin, S. Kapphan, L. Jastrabik, L. Boatner
Recent developments in $\text{K}_{1-x}\text{Li}_x\text{Ta}_{1-y}\text{Nb}_y\text{O}_3$ investigations
Ferroelectrics **267**, 221 (2002)

P. Galinetto, E. Giulotto, G. Samoggia, V. Trepakov, S. Kapphan, L. Boatner
Effect of Li-dipoles in $\text{K}_{1-x}\text{Li}_x\text{Ta}_{1-y}\text{Nb}_y\text{O}_3$: a Raman study
Ferroelectrics **272**, 2079 (2002)

V.A. Trepakov, L. Jastrabik, S. Kapphan, E. Giulotto, A.J. Agranat
Phase transitions, related properties and possible applications of $(\text{K,Li})(\text{Ta,Nb})\text{O}_3$ crystals
Optical Materials **19** (1), 13-21 (2002)

E. Giulotto, P. Galinetto, P. Camagni, G. Samoggia, V.A. Trepakov, L.A. Boatner
Structural effects of Li and Nb codoping in a KTaO_3 matrix: Raman investigation
Radiation Effects and Defects in Solids **155**, 259 (2001)

V.A. Trepakov, M.E. Savinov, E. Giulotto, P. Galinetto, P. Camagni, G. Samoggia, L.A. Boatner, S.E. Kapphan
Dipole ordering effects and reentrant dipolar glass state in $\text{KTaO}_3\text{:Li, Nb}$
Phys. Rev. B **63**, 172203 (2001)

P. Galinetto, E. Giulotto, F. Caccavale, C. Sada, F. Segato
Characterization of waveguides obtained by proton exchange on a LiNbO_3 substrate
Ferroelectrics **257**, 275 (2001)

P. Galinetto, E. Giulotto, P. Camagni, G. Samoggia, V.A. Trepakov, P.P. Syrnikov
Soft-mode Raman spectra in $\text{K}_{1-x}\text{Li}_x\text{Ta}_{1-y}\text{Nb}_y\text{O}_3$
Ferroelectrics **254**, 135 (2001)

E. Giulotto, P. Galinetto, P. Camagni, G. Samoggia, V.A. Trepakov, L. Jastrabik
Photoinduced phenomena and shallow levels in $\text{K}_{1-x}\text{Li}_x\text{TaO}_3$
Ferroelectrics **254**, 229 (2001)

E. Giolotto, P. Galinetto, P. Camagni, G. Samoggia, V.A. Trepakov, L. Jastrabik, P.P. Syrnikov
Co-operative phenomena induced by Nb admixture in $K_{1-x}Li_xTaO_3$
J. Phys.: Condens. Matter **12**, 6935 (2000)

P. Camagni, P. Galinetto, E. Giolotto, G. Samoggia, V.A. Trepakov, P.P. Syrnikov
Raman study of Cu-doped $K_{1-x}Li_xTa_{1-y}Nb_yO_3$
Ferroelectrics **239**, 233 (2000)

P. Camagni, P. Galinetto, E. Giolotto, G. Samoggia, V.A. Trepakov, P.P. Syrnikov, L. Jastrabik
Study of visible emission in $KTaO_3$ and $K_{1-x}Li_xTaO_3$
Ferroelectrics **239**, 225 (2000)

P. Galinetto, E. Giolotto, P. Sangalli, P. Camagni, G. Samoggia
Shallow levels and photoconductivity in $K_{1-x}Li_xTaO_3$
J. Phys.: Condens. Matter **11**, 9045 (1999)

P. Camagni, P. Galinetto, E. Giolotto, G. Samoggia, P. Sangalli
Photoluminescent processes in $K_{1-x}Li_xTaO_3$
Radiation Effects and Defects in Solids **149**, 101 (1999)

P. Camagni, P. Galinetto, E. Giolotto, G. Samoggia, P. Sangalli
Photocurrents in the polar phase of $K_{1-x}Li_xTaO_3$
Radiation Effects and Defects in Solids **151**, 65 (1999)

P. Sangalli, E. Giolotto, L. Rollandi, P. Calvi, P. Camagni, G. Samoggia
Photoinduced electronic transport in $K_{1-x}Li_xTaO_3$
Phys. Rev. B **57**, 6231 (1998)

P. Sangalli, P. Calvi, L. Rollandi, E. Giolotto, P. Camagni, G. Samoggia
Trap Level spectroscopy in $K_{1-x}Li_xTaO_3$
J. Kor. Phys. Soc. **32**, S811 (1998)

P. Sangalli, L. Rollandi, P. Calvi, E. Giolotto, P. Camagni, G. Samoggia
On the nature of photocurrents in $K_{1-x}Li_xTaO_3$
J. Kor. Phys. Soc. **32**, S1104 (1998)

G.N. Greaves, W. Smith, E. Giolotto, E. Pantos
Local structure, microstructure and glass properties
J. Non-Cryst. Solids **222**, 13 (1997)

L.E. Depero, L. Sangaletti, F. Parmigiani, E. Giolotto, L. Rollandi
Structural modeling based on the oxygen sublattice features in the perovskite family
Mat. Res. Soc. Symp. Procs. Series **453**, 461 (1997)
Editors: P. Davies, A. Jacobson, C. Torardi, T. Vanderah

G.P. Banfi, P. Calvi, P. Camagni, E. Giolotto, L. Rollandi, G. Samoggia, P. Sangalli
Photoinduced charge effects in $K_{0.984}Li_{0.016}TaO_3$
J. Phys. Condens. Matter **9**, 507 (1996)

P. Calvi, P. Camagni, E. Giolotto, L. Rollandi
Raman scattering and the evolution of polar order in Li-doped and Nb-doped $KTaO_3$
Phys. Rev. B **53**, 5240 (1996)

P. Calvi, P. Camagni, E. Giolotto, L. Rollandi
Ordered and disordered polar states in Nb-doped and Li-doped $KTaO_3$

Ferroelectrics 185, 21 (1996)

G.P. Banfi, P. Calvi, E. Giolotto

Spontaneous and field-assisted transition in $K_{0.984}Li_{0.016}TaO_3$: study of the polar pattern by birefringence and second-harmonic generation

Phys. Rev. B **51**, 6231 (1995)

P. Calvi, P. Camagni, E. Giolotto, L. Rollandi

The polar transition in Li-doped and Nb-doped $KTaO_3$: comparative analysis from hard-phonon Raman spectra

Radiation Effects and Defects in Solids **137**, 199 (1995)

P. Calvi, P. Camagni, E. Giolotto, L. Rollandi

Glassy state and field-induced ferroelectric state in $PbMg_{1/3}Nb_{2/3}O_3$

Procs. 4th Intern. Conference on Electroceramics and applications, edited by R. Waser et al (Aachen, FRG, 1994), Vol. 1, 463 (RWTH Aachen – Augustinus Buch., Aachen – FRG 1994)

P. Calvi, E. Giolotto, L. Rollandi

Study of ordering relaxations in Nb-doped $KTaO_3$

Ferroelectrics **157**, 171 (1994)

G.P. Banfi, P. Calvi, P. Camagni, E. Giolotto, G. Samoggia

Optical study of microscopic polar order in doped Potassium Tantalate

Procs. Intern. Conference on Defects in Insulating Materials, edited by O. Kanert and J.M. Spaeth (Nordkirchen, FRG, 1992), Vol. 1, 660 (World Scientific - Singapore 1993)

G.P. Banfi, P. Camagni, E. Giolotto, G. Samoggia, U.T. Höchli

Optical study of the transition of doped Potassium Tantalate

Ferroelectrics 124, 133 (1991)

G.A. Azzini, G.P. Banfi, E. Giolotto, G. Samoggia, U.T. Höchli

Study of the polar order in doped crystal by second-harmonic generation

Procs. European Conference on Optics Roma 1990 (IOP publ., No. **115**, Section 4, 195 Bristol - UK 1991)

G.A. Azzini, G.P. Banfi, E. Giolotto, U.T. Höchli

Second-harmonic generation and origin of polar configuration in $KTaO_3:Li$

Phys. Rev. B **43**, 7473 (1991)

G.P. Banfi, P. Calvi, P. Camagni, E. Giolotto, G. Samoggia

Characterization of ferroelectric microregions in $KTaO_3:Na$

Ferroelectrics **106**, 143 (1990)

G.P. Banfi, E. Giolotto, G. Samoggia, U.T. Höchli

Correlation of polar order in $K_{1-x}Na_xTaO_3$

Europhys. Lett. **9**, 729 (1989)

March 28, 2017

Enrico Giolotto