



Nombres:

VÍCTOR HUGO

Apellidos:

MUÑOZ GÁLVEZ

Contacto (Opcional):

VMUNOZ@FISICA.CIENCIAS.UCHILE.CL

Título Profesional o Grado Académico (incluya el año de obtención):

**LICENCIATURA EN CIENCIAS C/M EN FÍSICA, UNIVERSIDAD DE CHILE
1992.**

Estudios de Postgrado o Especialización (institución donde lo obtuvo y año de obtención):

DOCTOR EN FÍSICA, UNIVERSIDAD DE CHILE 1998.

Actividad Actual e Institución en la cual trabaja:

**PROFESOR ASISTENTE DE LA UNIVERSIDAD DE CHILE.
DEPARTAMENTO DE FÍSICA, FACULTAD DE CIENCIAS. CONSEJERO DE
FACULTAD. SOCIO ACTIVO DE LA SOCIEDAD CHILENA DE FÍSICA.**

Reseña de su actividad laboral actual:

Área de Investigación: Física de Plasmas, Sistemas Complejos

Línea de Investigación: Propagación de ondas, efectos no lineales y complejidad en plasmas, complejidad y caos en tránsito en ciudades, flujo peatonal y sismos, redes complejas

Docencia: Mecánica, Introducción a la Física de Plasmas (postgrado)

PUBLICACIONES INDEXADAS:

Moya, P.S., Navarro, R., Muñoz, V., Valdivia, J.A.
Comment on "sensitive test for ion-cyclotron resonant heating in the solar wind"
(2013) Physical Review Letters, 111 (2), art. no. 029001, .
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84880126432&partnerID=40&md5=6dd4da455c6c158a092b3f5608b32a3f>
DOCUMENT TYPE: Article
SOURCE: Scopus

Valdivia, J.A., Rogan, J., Muñoz, V., Toledo, B.A., Stepanova, M.
The magnetosphere as a complex system
(2013) Advances in Space Research, 51 (10), pp. 1934-1941.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84876409231&partnerID=40&md5=9d239fceb33a8e93ace2d90d91b02b1c>
DOCUMENT TYPE: Article
SOURCE: Scopus

Toledo, B.A., Sanjuan, M.A.F., Muñoz, V., Rogan, J., Valdivia, J.A.
Non-smooth transitions in a simple city traffic model analyzed through supertracks
(2013) Communications in Nonlinear Science and Numerical Simulation, 18 (1), pp. 81-88.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84865662963&partnerID=40&md5=1566f81f8690ccd63ec077493cc51aa8>
DOCUMENT TYPE: Article
SOURCE: Scopus

López, R.A., Asenjo, F.A., Muñoz, V., Valdivia, J.A.
Parametric decays in relativistic magnetized electron-positron plasmas with relativistic temperatures
(2012) 39th EPS Conference on Plasma Physics 2012, EPS 2012 and the 16th International Congress on Plasma Physics, 2, pp. 1054-1057.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84876903671&partnerID=40&md5=b48aa7584fc8213ec5651c03776282c3>
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus

Domínguez, M., Muñoz, V., Valdivia, J.A.
Study of the temporal evolution of complexity in the sun-earth system
(2012) 39th EPS Conference on Plasma Physics 2012, EPS 2012 and the 16th International Congress on Plasma Physics, 2, pp. 1070-1073.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84876924786&partnerID=40&md5=bafa9f6809130d99a3549b194bcc8da1>
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus

Asenjo, F.A., Borotto, F.A., Chian, A.C.-L., Muñoz, V., Valdivia, J.A., Rempel, E.
Envelope solitons in a weakly magnetized electron-positron plasma with relativistic temperature
(2012) 39th EPS Conference on Plasma Physics 2012, EPS 2012 and the 16th International Congress on Plasma Physics, 2, pp. 1078-1081.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84876896426&partnerID=40&md5=cf099e6f94fee9eac5e8a3276483e5b3>
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus

Pastén, D., Muñoz, V., Toledo, B., Villalobos, J., Zarama, R., Rogan, J., Valdivia, J.A.
Universal behavior in a model of city traffic with unequal green/red times
(2012) *Physica A: Statistical Mechanics and its Applications*, 391 (21), pp. 5230-5243.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84863983911&partnerID=40&md5=1fee233e46432bd1e5f0dc6e3a5facec>
DOCUMENT TYPE: Article
SOURCE: Scopus

Moya, P.S., Viñas, A.F., Muñoz, V., Valdivia, J.A.
Computational and theoretical study of the wave-particle interaction of protons and waves
(2012) *Annales Geophysicae*, 30 (9), pp. 1361-1369.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84867547926&partnerID=40&md5=894ac2ffc75a9a787f1478448400cf63>
DOCUMENT TYPE: Article
SOURCE: Scopus

López, R.A., Asenjo, F.A., Muñoz, V., Alejandro Valdivia, J.
Parametric decays in relativistic magnetized electron-positron plasmas with relativistic temperatures
(2012) *Physics of Plasmas*, 19 (8), art. no. 082104, .
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84865714273&partnerID=40&md5=bff1c02c096be59fec24c8138509dd9b>
DOCUMENT TYPE: Article
SOURCE: Scopus

Domínguez, M., Muñoz, V., Valdivia, J.A.
Thermal effects on the propagation of large-amplitude electromagnetic waves in magnetized relativistic electron-positron plasma
(2012) *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 85 (5), art. no. 056416, .
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84862012400&partnerID=40&md5=08b8fb9f87200ab46d3c673c24a970f3>
DOCUMENT TYPE: Article
SOURCE: Scopus

Asenjo, F.A., Borotto, F.A., Chian, A.C.-L., Muñoz, V., Valdivia, J.A., Rempel, E.L.
Self-modulation of nonlinear waves in a weakly magnetized relativistic electron-positron plasma with temperature
(2012) *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 85 (4), art. no. 046406, . Cited 2 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84859533004&partnerID=40&md5=b9a2b76705b09eb58cf1f090f4b00385>
DOCUMENT TYPE: Article
SOURCE: Scopus

Pastén, D., Muñoz, V., Cisternas, A., Rogan, J., Valdivia, J.A.
Monofractal and multifractal analysis of the spatial distribution of earthquakes in the central zone of Chile
(2011) *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 84 (6), art. no. 066123, . Cited 2 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-84855310001&partnerID=40&md5=b2565006a5ae15887ebb51abca13a03a>
DOCUMENT TYPE: Article

SOURCE: Scopus

Abe, S., Pastén, D., Muñoz, V., Suzuki, N.
Universalities of earthquake-network characteristics
(2011) Chinese Science Bulletin, 56 (34), pp. 3697-3701.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-82555202516&partnerID=40&md5=f4c423b772944e6c2090b580fe1bb16f>
DOCUMENT TYPE: Article
SOURCE: Scopus

Moya, P.S., Muñoz, V., Rogan, J., Valdivia, J.A.
Study of the cascading effect during the acceleration and heating of ions in the solar wind
(2011) Journal of Atmospheric and Solar-Terrestrial Physics, 73 (11-12), pp. 1390-1397. Cited 2 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-79960044029&partnerID=40&md5=46f79873446b88f46aabded2e6df5ffd>
DOCUMENT TYPE: Article
SOURCE: Scopus

Asenjo, F.A., Muñoz, V., Valdivia, J.A.
Relativistic mass and charge of photons in thermal plasmas through electromagnetic field quantization
(2010) Physical Review E - Statistical, Nonlinear, and Soft Matter Physics, 81 (5), art. no. 056405, .
<http://www.scopus.com/inward/record.url?eid=2-s2.0-77953353356&partnerID=40&md5=3fd3fa041dbf7c3f478eff880e851dc9>
DOCUMENT TYPE: Article
SOURCE: Scopus

Villalobos, J., Toledo, B.A., Pastén, D., Muñoz, V., Rogan, J., Zarama, R., Lammoglia, N., Valdivia, J.A.
Characterization of the nontrivial and chaotic behavior that occurs in a simple city traffic model.
(2010) Chaos (Woodbury, N.Y.), 20 (1), p. 013109.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-79951978860&partnerID=40&md5=4d43cca4f6a36bd87114b7f59ce8a94d>
DOCUMENT TYPE: Article
SOURCE: Scopus

Villalobos, J., Toledo, B.A., Pastén, D., Muñoz, V., Rogan, J., Zarama, R., Lammoglia, N., Valdivia, J.A.
Characterization of the nontrivial and chaotic behavior that occurs in a simple city traffic model
(2010) Chaos, 20 (1), art. no. 012001CHA, . Cited 2 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-77953521007&partnerID=40&md5=c928951a6889ee0c0f910d7725033e0d>
DOCUMENT TYPE: Article
SOURCE: Scopus

Varas, A., Cornejo, M.D., Toledo, B.A., Muñoz, V., Rogan, J., Zarama, R., Valdivia, J.A.
Resonance, criticality, and emergence in city traffic investigated in cellular automaton models

(2009) Physical Review E - Statistical, Nonlinear, and Soft Matter Physics, 80 (5), art. no. 056108, . Cited 4 times.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-71449118322&partnerID=40&md5=a5b31f7a80eac0caee29acb5f8fc1f9e)

[71449118322&partnerID=40&md5=a5b31f7a80eac0caee29acb5f8fc1f9e](http://www.scopus.com/inward/record.url?eid=2-s2.0-71449118322&partnerID=40&md5=a5b31f7a80eac0caee29acb5f8fc1f9e)

DOCUMENT TYPE: Article

SOURCE: Scopus

Lammoglia, N., Muñoz, V., Rogan, J., Toledo, B., Zarama, R., Valdivia, J.A.

Quantitative description of realistic wealth distributions by kinetic trading models

(2008) Physical Review E - Statistical, Nonlinear, and Soft Matter Physics, 78 (4), art. no. 047103, . Cited 2 times.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-55849110002&partnerID=40&md5=f6e015750f2c96164aad3f8e275bdf3)

[55849110002&partnerID=40&md5=f6e015750f2c96164aad3f8e275bdf3](http://www.scopus.com/inward/record.url?eid=2-s2.0-55849110002&partnerID=40&md5=f6e015750f2c96164aad3f8e275bdf3)

DOCUMENT TYPE: Article

SOURCE: Scopus

Varas, A., Cornejo, M.D., Mainemer, D., Toledo, B., Rogan, J., Muñoz, V., Valdivia, J.A.

Cellular automaton model for evacuation process with obstacles

(2007) Physica A: Statistical Mechanics and its Applications, 382 (2), pp. 631-642.

Cited 74 times.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-34250615064&partnerID=40&md5=b286b74361940980ecc0b28162007bac)

[34250615064&partnerID=40&md5=b286b74361940980ecc0b28162007bac](http://www.scopus.com/inward/record.url?eid=2-s2.0-34250615064&partnerID=40&md5=b286b74361940980ecc0b28162007bac)

DOCUMENT TYPE: Article

SOURCE: Scopus

Wastavino, L.A., Toledo, B.A., Rogan, J., Zarama, R., Muñoz, V., Valdivia, J.A.

Modeling traffic on crossroads

(2007) Physica A: Statistical Mechanics and its Applications, 381 (1-2), pp. 411-419.

Cited 16 times.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-34249720042&partnerID=40&md5=18de6d1e30102c2e75ab15a948218d54)

[34249720042&partnerID=40&md5=18de6d1e30102c2e75ab15a948218d54](http://www.scopus.com/inward/record.url?eid=2-s2.0-34249720042&partnerID=40&md5=18de6d1e30102c2e75ab15a948218d54)

DOCUMENT TYPE: Article

SOURCE: Scopus

Toledo, B.A., Cerda, E., Rogan, J., Muñoz, V., Tenreiro, C., Zarama, R., Valdivia, J.A.

Universal and nonuniversal features in a model of city traffic

(2007) Physical Review E - Statistical, Nonlinear, and Soft Matter Physics, 75 (2), art. no. 026108, . Cited 43 times.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-33847380621&partnerID=40&md5=26a0c66199841f17274a4d7d09b9ee40)

[33847380621&partnerID=40&md5=26a0c66199841f17274a4d7d09b9ee40](http://www.scopus.com/inward/record.url?eid=2-s2.0-33847380621&partnerID=40&md5=26a0c66199841f17274a4d7d09b9ee40)

DOCUMENT TYPE: Article

SOURCE: Scopus

Muñoz, V., Hada, T., Matsukiyo, S.

Kinetic effects on the parametric decays of Alfvén waves in relativistic pair plasmas

(2006) Earth, Planets and Space, 58 (9), pp. 1213-1217. Cited 4 times.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-33750629498&partnerID=40&md5=dfd11b721d1deb8ae53a40867a4e1cd6)

[33750629498&partnerID=40&md5=dfd11b721d1deb8ae53a40867a4e1cd6](http://www.scopus.com/inward/record.url?eid=2-s2.0-33750629498&partnerID=40&md5=dfd11b721d1deb8ae53a40867a4e1cd6)

DOCUMENT TYPE: Article

SOURCE: Scopus

Muñoz, V.

A nonextensive statistics approach for Langmuir waves in relativistic plasmas

(2006) Nonlinear Processes in Geophysics, 13 (2), pp. 237-241. Cited 17 times.

<http://www.scopus.com/inward/record.url?eid=2-s2.0-3374555018&partnerID=40&md5=7529b4c62ff96a2a40f0282b24715be6>
DOCUMENT TYPE: Review
SOURCE: Scopus

Valdivia, J.A., Rogan, J., Muñoz, V., Toledo, B.
Hysteresis provides self-organization in a plasma model
(2006) *Space Science Reviews*, 122 (1-4), pp. 313-320. Cited 5 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-33749037430&partnerID=40&md5=d5025ae04b6719f8ac862203804806d2>
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus

Valdivia, J.A., Rogan, J., Muñoz, V., Gomberoff, L., Klimas, A., Vassiliadis, D., Uritsky, V., Sharma, S., Toledo, B., Wastavino, L.
The magnetosphere as a complex system
(2005) *Advances in Space Research*, 35 (5), pp. 961-971. Cited 8 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-20744442772&partnerID=40&md5=61ab53ea7af3c7a1bb2f91b6e9196016>
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus

Toledo, B.A., Muñoz, V., Rogan, J., Tenreiro, C., Valdivia, J.A.
Erratum: Modeling traffic through a sequence of traffic lights (*Physical Review E* (2004) 70 (016107))
(2004) *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 70 (3 2), art. no. 039901, pp. 039901-1.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-9744273174&partnerID=40&md5=ac82dab398bfe0142d722f2ead6c45f1>
DOCUMENT TYPE: Erratum
SOURCE: Scopus

Toledo, B.A., Muñoz, V., Rogan, J., Tenreiro, C., Valdivia, J.A.
Modeling traffic through a sequence of traffic lights
(2004) *Physical Review E - Statistical, Nonlinear, and Soft Matter Physics*, 70 (1 2), art. no. 016107, pp. 016107-1-016107-6. Cited 77 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-42749100935&partnerID=40&md5=b34e11b8fbab8e456a7bd8bc8b05c158>
DOCUMENT TYPE: Article
SOURCE: Scopus

Muñoz, V.
Kinetic effects on the parametric decays of circularly polarized electromagnetic waves in a relativistic pair plasma
(2004) *Physics of Plasmas*, 11 (7), pp. 3497-3501. Cited 6 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-3142667613&partnerID=40&md5=051650e00f3db602181a14abe5226924>
DOCUMENT TYPE: Article
SOURCE: Scopus

Gomberoff, L., Muñoz, V., Valdivia, J.A.
Ion cyclotron instability triggered by drifting minor ion species: Cascade effect and exact results
(2004) *Planetary and Space Science*, 52 (8), pp. 679-684. Cited 3 times.

<http://www.scopus.com/inward/record.url?eid=2-s2.0-2342537056&partnerID=40&md5=52e0804b64ec1df830da8476013d4d62>
DOCUMENT TYPE: Article
SOURCE: Scopus

Muñoz, V., Gomberoff, L.
Kinetic effects on parametric decays of circularly polarized electromagnetic waves in an electron-positron plasma
(2002) *Revista Mexicana de Fisica*, 48 (SUPPL.3), pp. 136-138.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-0037901389&partnerID=40&md5=de856af78c5a429023211826378f2126>
DOCUMENT TYPE: Conference Paper
SOURCE: Scopus

Muñoz, V., Gomberoff, L.
Kinetic effects on the parametric decays of circularly polarized electromagnetic waves in an electron-positron plasma
(2002) *Physics of Plasmas*, 9 (6), p. 2534. Cited 3 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-0036607779&partnerID=40&md5=6555905ae0bd2f99017c4c5b58f80c03>
DOCUMENT TYPE: Article
SOURCE: Scopus

Muñoz, V., Gomberoff, L.
Electro-acoustic damping effects on the parametric decays of electromagnetic waves in electron-positron plasmas
(2000) *Physics of Plasmas*, 7 (12), pp. 4916-4922. Cited 1 time.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-17344392554&partnerID=40&md5=71e799c8acf5ed9775e7c1d4b32fbb5a>
DOCUMENT TYPE: Article
SOURCE: Scopus

Muñoz, V., Gomberoff, L.
Parametric decays of a circularly polarized electromagnetic wave in an electron-positron plasma
(1998) *Physics of Plasmas*, 5 (9), pp. 3171-3179. Cited 10 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-0038639804&partnerID=40&md5=270f056e8ec2f7431d50c5988ee5b1cd>
DOCUMENT TYPE: Article
SOURCE: Scopus

Muñoz, V., Gomberoff, L.
Parametric decays of a circularly polarized electromagnetic wave in an electron-positron magnetized plasma
(1998) *Physical Review E - Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics*, 57 (1), pp. 994-1004. Cited 10 times.
<http://www.scopus.com/inward/record.url?eid=2-s2.0-4244034004&partnerID=40&md5=e66902dceddc1b49a2ffff382c8cc275>
DOCUMENT TYPE: Article
SOURCE: Scopus

Gomberoff, L., Muñoz, V., Galvão, R.M.O.
Parametric decays of a linearly polarized electromagnetic wave in an electron-positron plasma

(1997) Physical Review E - Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics, 56 (4), pp. 4581-4590. Cited 12 times.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-0031244639&partnerID=40&md5=554ebd20b42eaccd64984e1d69d6884d)

[0031244639&partnerID=40&md5=554ebd20b42eaccd64984e1d69d6884d](http://www.scopus.com/inward/record.url?eid=2-s2.0-0031244639&partnerID=40&md5=554ebd20b42eaccd64984e1d69d6884d)

DOCUMENT TYPE: Article

SOURCE: Scopus

Gomberoff, L., Muñoz, V.

Parametric decay of a circularly polarized electromagnetic wave in an electron-positron magnetized plasma

(1997) Astrophysics and Space Science, 256 (1-2), pp. 403-410.

[http://www.scopus.com/inward/record.url?eid=2-s2.0-](http://www.scopus.com/inward/record.url?eid=2-s2.0-5844386153&partnerID=40&md5=8d4f9e3ec08eea5dd589c9210aced04b)

[5844386153&partnerID=40&md5=8d4f9e3ec08eea5dd589c9210aced04b](http://www.scopus.com/inward/record.url?eid=2-s2.0-5844386153&partnerID=40&md5=8d4f9e3ec08eea5dd589c9210aced04b)

DOCUMENT TYPE: Article

SOURCE: Scopus

PROYECTOS DE INVESTIGACIÓN

Investigador Responsable. 1121144 Nonlinear processes in relativistic electron-positron plasmas. 2012

Investigador Responsable. 1080658 Nonextensive statistics in complex systems: a study in plasmas, seisms and traffic/pedestrian flow. 2008

Investigador Responsable. 1060830 Waves in nonextensive relativistic plasmas. 2006

Coinvestigador. 1050126 Determination of x-ray generation properties: an experimental study in the speed4 fast-plasma focus device. 2005

Investigador Responsable. 1020558 Kinetic effects on parametric decays in relativistic plasmas. 2002

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