

Pedro Lacerda

Curriculum Vitae

Born March 27th, 1975, in Lisbon, Portugal

Address

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Current Appointment

Postdoctoral Researcher at the University of Hawaii. Supervisor: David Jewitt

Education

- 2005 Ph. D. – Leiden University, promotor: Prof. Harm Habing; advisor: Jane Luu;
Thesis: *The shapes and spins of Kuiper Belt objects.*
- 2000 B. Sc. – Faculty of Sciences of the University of Lisbon, Portugal, degree of Licenciado in
Theoretical Physics.
- 1993–1996 Instituto Superior Técnico, Lisbon, Portugal, Electrotechnical & Computer Engineering.

Employment

- 1999 Initiation Researcher (BIC grant), Center for Astronomy and Astrophysics, University of Lisbon, Portugal. Projects: *Analysis of photometric data of Centaurs and comets, Assistance in public outreach programs.*
- 2000-2005 Promovendus (Graduate Student), Leiden University, the Netherlands
- 2005-2006 Foundation for Science and Technology Postdoctoral Fellow, Coimbra University, Portugal
- 2006-now Postdoctoral Fellow, University of Hawaii

Honors

- 2005 Foundation for Science and Technology, Portugal, FCT Postdoctoral Fellowship;
research advisors: João Fernandes & David Jewitt.
- 2003 Harvard-Smithsonian Center for Astrophysics, SAO Predoctoral Fellowship;
research advisor: Scott Kenyon.

Refereed Publications

Lacerda, P., Jewitt, D., & Peixinho, N. 2008. *High Precision Photometry of Extreme KBO 2003 EL61.* The Astronomical Journal, 135, 1749

Lacerda, P. 2008. *Detection of Contact Binaries Using Sparse High Phase Angle Light Curves.* The Astrophysical Journal Letters, 672, L57

Sheppard, S. S., **Lacerda, P.,** & Ortiz, J.-L. **2008.** *Photometric Light Curves of Trans-Neptunian Objects and Centaurs: Rotations and Shapes.* Chapter in "The Solar System Beyond Neptune", ed. A. Barucci, H. Boehnhardt, D. Cruikshank and A. Morbidelli (Tucson: Univ. of Arizona Press), p.129

Mann, R., Jewitt, D., & **Lacerda, P. 2007.** *Fraction of Contact Binary Trojan Asteroids.* The Astronomical Journal, 134, 1133

Lacerda, P. & Jewitt, D. 2007. *Densities of solar system objects from their rotational lightcurves.* The Astronomical Journal, 133, 1393

Lacerda, P. & Luu, J. 2006. *Analysis of the rotational properties of Kuiper belt objects.* The Astronomical Journal, 131, 2314

Luu, J. & **Lacerda, P. 2003.** *The shape distribution of Kuiper Belt objects.* Earth Moon and Planets, 92, 221

Lacerda, P. & Luu, J. 2003. *On the detectability of lightcurves of Kuiper belt objects.* Icarus, 161, 174.

Rousselot, P., Petit, J.-M., Poulet, F., **Lacerda, P.,** Ortiz, J.-L. **2003.** *Photometry of the Kuiper Belt object 1999 TD10 at different phase angles.* Astronomy & Astrophysics, 407, 1139.

Peixinho, N., **Lacerda, P.,** Ortiz, J.-L. Doressoundiram, A., Roos-Serote, M., & Gutiérrez, P. J., **2001.** *Photometric study of Centaurs (10199) Chariklo (1997 CU26) and 1999 UG5.* Astronomy & Astrophysics, 371, 753

Teaching Experience

Solar System Lecturer at the BEST Summer School, Jul 2005, Coimbra, Portugal

Teaching Fellow for Astronomy 1, Spring Term 2003, Harvard University, USA.

Teaching assistant at the 5th Leiden-Dwingeloo Summer School in Astrophysics, Jul 22–Aug 3, 2001, the Netherlands

Languages

Native: Portuguese; *Fluent:* English, Italian; *Good:* French, Dutch, Spanish; *Basic:* German

Professional

Reviewer for AJ, ApJ, A&A, and Icarus. Full member of the European Astronomical Society, the American Astronomical Society, the Portuguese Physical Society, and the Portuguese Astronomical Society

Technical

UV, optical, and near and mid-infrared imaging and spectroscopy. Major programming languages, data reduction, plotting, and presentation software (Mathematica, IDL, bash, awk, sed, Fortran, C, C++, Python, LaTeX, IRAF, SExtractor, POV-Ray, Kaleida Graph, Excel, Keynote, PowerPoint, etc.)

Observing

Co-I Herschel Open Time Key Program "*TNOs are Cool: A Survey of the Transneptunian Region*"
PI: Thomas Mueller, MPE Garching

Co-I Pan-STARRS PS1 Key Project "*Populations of Objects in the Outer Solar System*"
PI: Matt Holman, CfA Harvard

Co-I Pan-STARRS PS1 Key Project "*Populations of Objects in the Inner Solar System*"
PI: Robert Jedicke, IfA Hawaii

Classical mode observing experience:

Subaru MOIRCS (Apr 08)

IRTF MIRS (Dec 07)

UH 88" TEK (Jun+Oct+Dec 07)

UH 88" OPTIC (Jul 07)

Keck HIRESb (May 07)

UKIRT UIST Spectroscopy (Apr 05)

WHT Prime Focus (Jun 00, Feb+Nov 01)

ESO 2.2-m WFC (Apr+Oct 01)

Danish 1.54-m DFOSC (Sep 01)

INT WFC (Feb+Sep 01)

Dutch 0.91-m La Silla (Jan+Feb 01)

OAN 1.52-m Calar Alto (Feb 00)

SEST (Sep 99)

Conferences, Workshops and Schools

Invited:

Binaries in the Solar System, Steamboat Springs, Colorado; Aug 2007. Contribution: *The abundance of contact binaries in the Kuiper belt*

Contributed:

Asteroids, Comets and Meteors (ACM 2008), Baltimore; Aug 2008. Contribution: *A Dark, Red Spot on KBO 2003 EL61*.

39th DPS meeting, Orlando, Florida; Oct 2007. Contribution: *Detection of Contact Binaries*

Belton Symposium, Tucson, Arizona; Nov 2006. Contribution: *Density Determinations in the Solar System*

38th DPS meeting, Pasadena; Oct 2006. Contribution: *Densities from Lightcurves*

Trans Neptunian Objects – Dynamical and Physical properties, Catania; Jul 2006. Contribution: *Analysis of the Rotational Properties of KBOs*

37th DPS meeting, Cambridge, UK; Sep 2005. Contribution: *On the origin of KBO spins*

XXVth IAU General Assembly, Sydney; Jul 2003. Contribution: *Detectability of lightcurves of KBOs*

13th National Conference of the Portuguese Physical Society, Évora; Sep 2002. Contribution: *On the detectability of lightcurves of KBOs.*

Joint European and National Astronomical Meeting, Porto; Sep 2002. Contribution: *On the detectability of lightcurves of KBOs.*

Asteroids, Comets and Meteors (ACM 2002), Berlin; Jul 2002. Contribution: *On the detectability of lightcurves of KBOs.*

57th Dutch Astronomical Conference, May 2002. Contribution: *Lightcurves of Kuiper Belt Objects.*

XI Portuguese Astronomy and Astrophysics Meeting (XIENAA), Madeira, Jul 2001. Contribution: *Rotational Properties of KBOs.*

Conference "Statistical Challenges in Modern Astronomy III", Penn State University; July 2001

Workshop "Physical Properties of Kuiper Belt Objects", Meudon, Jun 2001

XXV General Assembly of the European Geophysical Society, Nice, France, Apr 2000.

Workshop "Portuguese Astrophysical Research for the VLT Era", Lisbon, Apr 2000. Contribution: *On the rotation of Centaur 1997 CU26.*

Schools:

Astronomy in the submillimeter and far infrared domains with the Herschel Space Observatory, Les Houches; Apr, 2007. Contribution: *Small Solar System Bodies through Herschel*

Kobe Planetary School, Kobe; Dec 2006. Contribution: *The Shape and Density of Trojan 634 Hektor*

NOVA Autumn School, Dwingeloo, Sep 2000. Contribution: *The Kuiper Belt.*

Interdisciplinary Summer School on the Solar System (EVISS), Coimbra, Aug 1999. Contribution: *Evolution of a disk of planetesimals under the influence of a perturber body.*

Other Experiences

Worked part-time for three years at Telepac telecommunications company, giving technical support concerning computers and internet, from 1996 to 1999.

One month's probation at the Siemens factory of oil-filled distribution transformers, working at the Materials Laboratory of the Quality Control Department, July 1991, Sabugo, Portugal