



# Métricas Modernas

En contexto

*CRECS 2016*

**Olga Alarcón – Regional Sales Manager**



# Historia

## • 2012

- Fundación Plum Analytics – Andrea Michalek/Mike Buschman
- University of Pittsburgh – primer cliente

## • 2013

- Lanzamiento de PlumX
- Clientes: Universidades, Institutos de investigación, Editores, Financiadores de investigación

## • 2014

- EBSCO adquiere Plum Analytics
- Fuerte inversión en desarrollo tecnológico

## • 2015

- Rápido crecimiento
- +250 clientes en 35 países
- Continúa la inversión (Fuentes, Impacto... )

***PlumX Metrics:***  
**Proporciona métricas  
exhaustivas del Repositorio de  
la Institución**

# Repositorios Institucionales



- Las bibliotecas son a menudo responsables de hospedar los resultados de la investigación de su institución
- En muchos casos, los investigadores ven la labor de depositar su investigación en los repositorios como una carga administrativa – no ven la ventaja
- Plum: incentivo para el uso del repositorio



**Los investigadores  
ya se han movido a  
online**

“Mismo” artículo, diferentes lugares

# PlumX complementa la Citación por impacto

## Elastic ice shells of synchronous moons: Implications for cracks on Europa and non-synchronous rotation of Titan

Peter M. Goldreich<sup>a,b</sup>, Jonathan L. Mitchell<sup>a,b</sup>

### Abstract

A number of synchronous moons are thought to harbor water oceans beneath their outer ice shells. A subsurface ocean frictionally decouples the shell from the interior. This has led to proposals that a weak tidal or atmospheric torque might cause the shell to rotate differentially with respect to the synchronously rotating interior. Applications along these lines have been made to Europa and Titan. However, the shell is coupled to the ocean by an elastic torque. As a result of centrifugal and tidal forces, the ocean would assume an ellipsoidal shape with its long axis aligned toward the parent planet. Any displacement of the shell away from its equilibrium position would induce strains thereby increasing its elastic energy and giving rise to an elastic restoring torque. In the investigation reported on here, the elastic torque is compared with the tidal torque acting on Europa and the atmospheric torque acting on Titan.

### References

Anderson, J. D., Schubert, G., Jacobson, R. A., Lau, E. L., Moore, W. B., Sjogren, W. L., Sep. 1998. Europa's Differentiated Internal Structure: Inferences from *Europa Clipper* Reconnaissance Mission. *J. Geophys. Res.* 103, 2081-2093

Greenberg, R., Greenberg, R., Hoppa, G., Helfenstein, P., McEwen, A., Pappalardo, R., Tufts, B., Ockert-Bell, M., Sullivan, R., Greeley, R., Belton, M. J. S., Denk, T., Clark, B. E., Burns, J., Veverka, J., Jan. 1998. Evidence for asynchronous rotation of Europa. *Nature* 391, 368.

Ghatak, A., Mahadevan, L., Nov. 2003. Crack Stress: The Cylindrical Wake of a Cylinder Tearing through a Thin Sheet. *Physical Review Letters* 91 (21), 215507.

Greeley, R., Sullivan, R., Coon, M. D., Geissler, P. E., Tufts, B. R., Head, J. W., Pappalardo, R. T., Moore, J. M., Sep. 1998. Terrestrial Sea Ice Morphology: Clues to Europa's Ice. *J. Geophys. Res.* 103, 207-220.

Greenberg, R., Hoppa, G. V., Tufts, B. R., Geissler, P., Riley, J., Kadel, S., Oct. 1999. Chaos on Europa. *Icarus* 141, 263-286.

Greenberg, R., Weidenschilling, S. J., May 1984. How fast do Galilean satellites spin? *Icarus* 25, 187-197.

## Europa's Differentiated Internal Structure: Inferences from Four Galileo Encounters

J. D. Anderson, G. Schubert, R. A. Jacobson, E. L. Lau, W. B. Moore, W. L. Sjogren

Galileo's four fly-by observations of Europa reveal the satellite's internal structure. The Galileo spacecraft's radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

The Galileo radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

The Galileo radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

The Galileo radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

Parameter	Value	Uncertainty
Core radius (km)	1000-1200	± 100
Ice shell thickness (km)	100-150	± 20
Core density (g/cm <sup>3</sup> )	3.0-3.5	± 0.2
Ice shell density (g/cm <sup>3</sup> )	0.9-1.0	± 0.1
Core mass fraction (%)	10-15	± 2

## Terrestrial Sea Ice Morphology Considerations for Europa

Jonathan L. Mitchell and Peter M. Goldreich  
Department of Geological Sciences, Princeton University, Princeton, New Jersey 08542-0871  
and  
Department of Physics, Princeton University, Princeton, New Jersey 08542-0871

Abstract: The Galileo spacecraft's radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

The Galileo radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

The Galileo radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

The Galileo radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

The Galileo radio science experiment measured the time delay of radio signals passing through Europa's interior. The resulting data indicate that Europa has a differentiated internal structure, with a rocky core and an outer ice shell. The ice shell is estimated to be 100-150 km thick, and the core is estimated to be 1000-1200 km in radius. The core is estimated to be composed of silicate and iron, and the ice shell is estimated to be composed of water ice. The core is estimated to be 10-15% of the total mass of Europa.

# Desfase en la citación

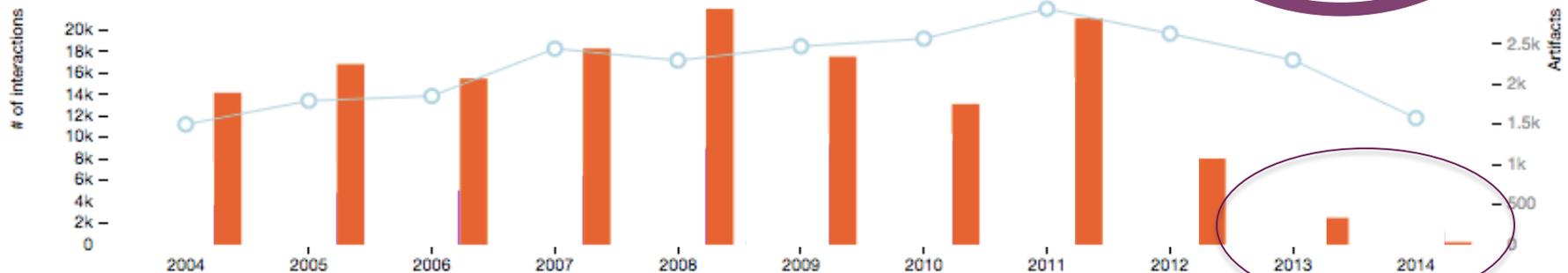
¿Y las publicaciones del año pasado y del anterior?

Download as...



Artifacts by Publication Year - University of Pittsburgh

Metrics by publication year



	Citations	Artifacts
2014	228	1575
2013	2492	2297
2012	8015	2625
2011	21049	2934
2010	13086	2563
2009	17489	2467
2008	21950	2291
2007	18243	2438
2006	15457	1849
2005	16795	1790
2004	14132	1496

# Respuesta a las grandes preguntas



¿Qué impacto ha tenido mi investigación en los últimos 12 meses?



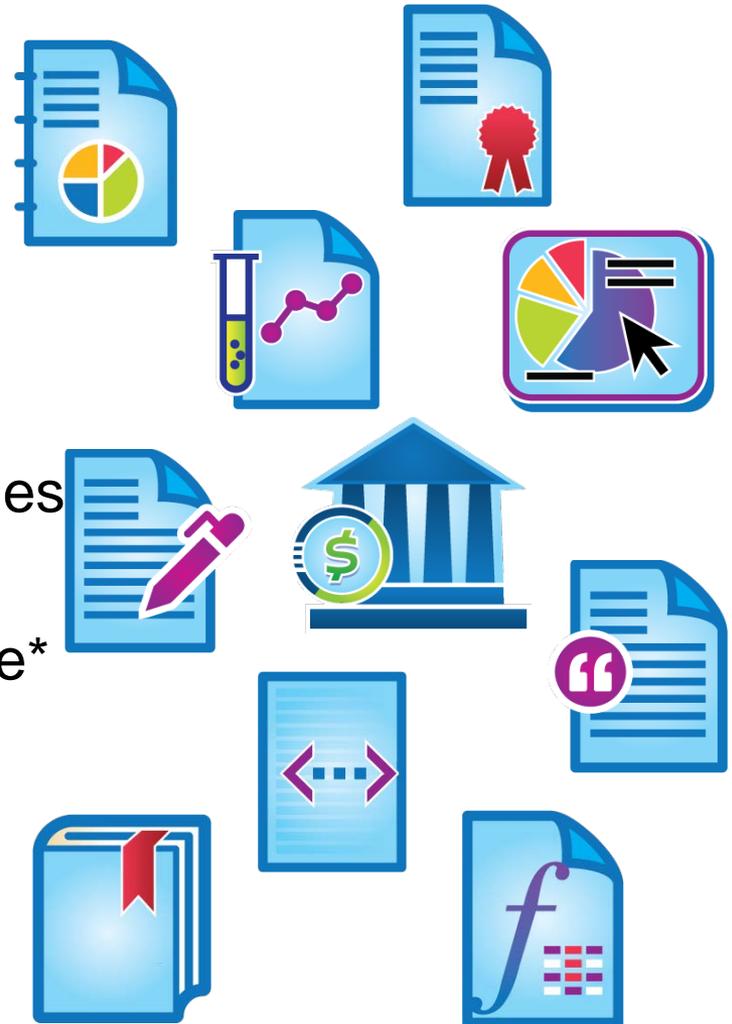
¿Qué puedo hacer para ganar visibilidad, diferenciarme, conseguir financiación?



¿Tiene impacto mi actividad científica cuando no está reflejada en un artículo?

# Más que artículos

- Artículos
- Post en blogs\*
- Capítulos de libros
- Libros
- Casos prácticos
- Ensayos clínicos\*
- Ponencias
- Data Sets
- Cifras (Figshare)
- Entrevistas
- Cartas
- Media
- Patentes
- Posters
- Preprints
- Presentaciones
- Informes
- Código fuente\*
- Tesis
- Videos\*
- Páginas web



# Fuentes

-  Amazon
-  Bit.ly
-  CrossRef
-  Delicious
-  Dryad
-  dSpace
-  EBSCO
-  ePrints
-  Facebook
-  figshare
-  Github
-  Goodreads
-  Google+
-  Medwave
-  Mendeley
-  PLOS
-  PubMed Central
-  Reddit
-  Research Blogging
-  Scopus
-  SlideShare
-  SourceForge
-  Stack Overflow
-  Twitter
-  USPTO
-  Vimeo
-  Wikipedia
-  Worldcat
-  YouTube

# PLUMX ALLmetrics

## Categorías



### USAGE

(clicks, downloads, views,  
library holdings, video plays)



### CAPTURES

(bookmarks, code forks, favorites,  
readers, watchers)



### MENTIONS

(blog posts, comments, reviews,  
Wikipedia links)



### SOCIAL MEDIA

(+1s, likes, shares, tweets)



### CITATIONS

(PubMed Central, Scopus,  
patents)



USAGE

clicks, downloads,  
views, library holdings,  
video plays

- 
- ¿Hay alguien leyendo nuestro trabajo?
  - El impacto por uso se define como lo más importante para un investigador después del impacto por citación.
  - PlumX, único sistema que rastrea el impacto por uso.



## CAPTURES

---

bookmarks, favorites,  
readers, watchers

- Las capturas indican interés explícito por un trabajo.
- Indican futuras citaciones.



## MENTIONS

blog posts,  
comments, reviews,  
Wikipedia links

- 
- Esta categoría mide a quién realmente le atrae tu trabajo.
  - ¿Qué se comenta sobre tu trabajo?
  - Aprovecha el feedback, interacciona...



+1s, likes, shares,  
tweets

SOCIAL MEDIA

---

- Mide como un investigador promueve su trabajo en el nuevo escenario.
- Especialmente importante para los nuevos investigadores.
- Monitoriza el nivel de atención que genera tu trabajo.



CITATIONS

# PubMed Central, Scopus, patents

- 
- El resultado final, impacto consolidado.
  - Permite comparativas con otras métricas

# Desfase en la citación

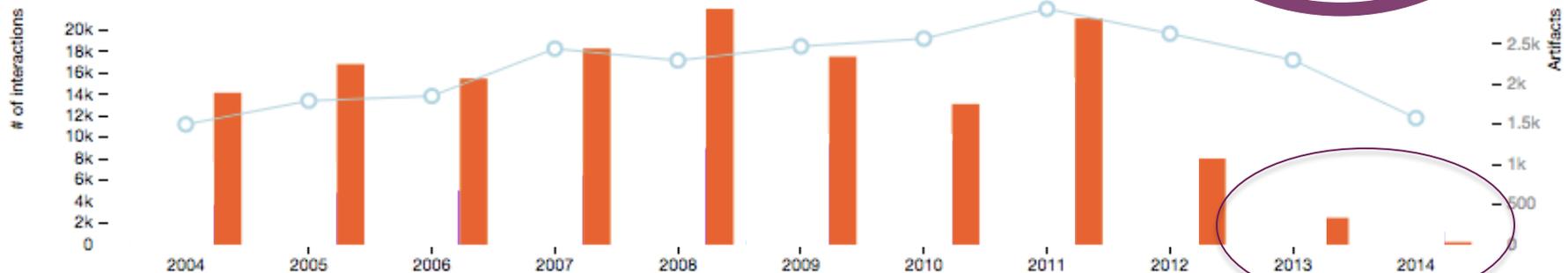
¿Y las publicaciones del año pasado y del anterior?

Download as...



Artifacts by Publication Year - University of Pittsburgh

Metrics by publication year



	Citations	Artifacts
2014	228	1575
2013	2492	2297
2012	8015	2625
2011	21049	2934
2010	13086	2563
2009	17489	2467
2008	21950	2291
2007	18243	2438
2006	15457	1849
2005	16795	1790
2004	14132	1496

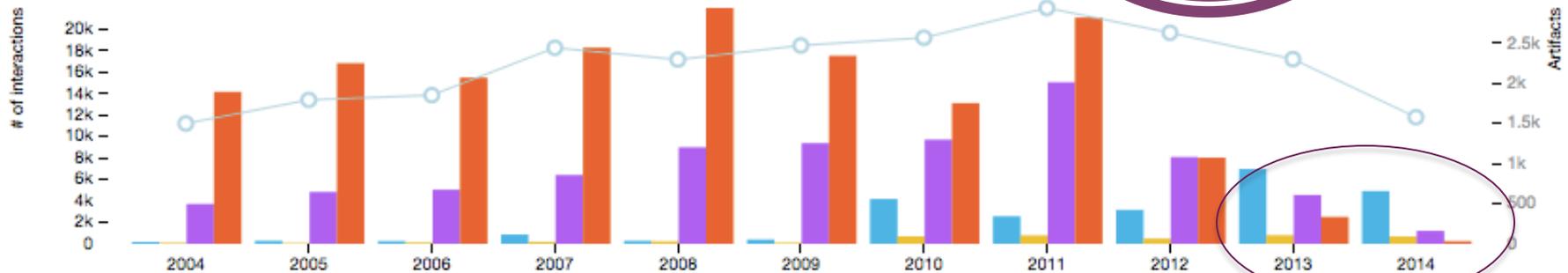
# Otras métricas llenan el hueco

¿Impacto en los últimos 12 - 24 meses?

Artifacts by Publication Year - University of Pittsburgh

Download as...

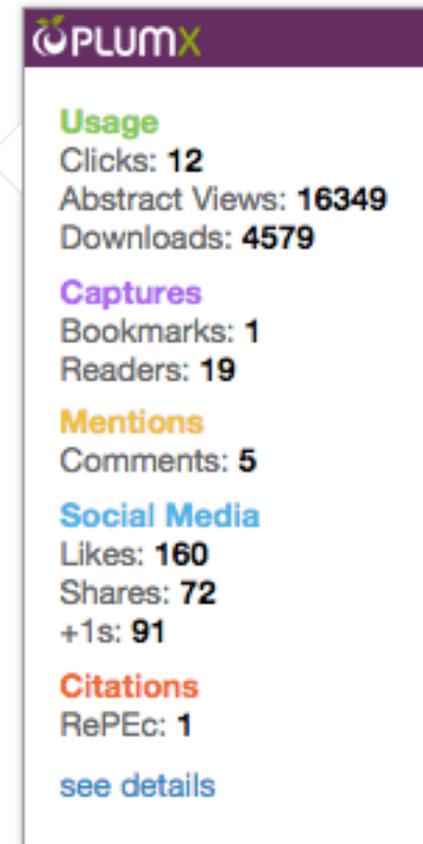
Metrics by publication year



	Social Media	Mentions	Captures	Citations	Artifacts
2014	4901	669	1204	228	1575
2013	6954	790	4541	2492	2297
2012	3152	479	8067	8015	2625
2011	2555	773	15029	21049	2934
2010	4161	689	9685	13086	2563
2009	386	95	9361	17489	2467
2008	262	221	8968	21950	2291
2007	852	180	6394	18243	2438
2006	234	115	5025	15457	1849
2005	269	64	4816	16795	1790
2004	174	89	3701	14132	1496

# Visualización del Impacto: Plum Print

- Incluye las 5 categorías de métricas
- Los círculos cambian de tamaño dinámicamente en base a las métricas de cada categoría





# University of Pittsburgh

The University of Pittsburgh's PlumX dashboard displays the research impact of researchers from a cross-section of departments throughout the university. Any contribution to the D-Scholarship Institutional Repository is available in PlumX. These contributions enable the per-institute and per-department views. Additionally metrics about the impact of articles in library published journals are also available.

## Artifact Summary

31043



Government

11883



Article

6209



Thesis

3552



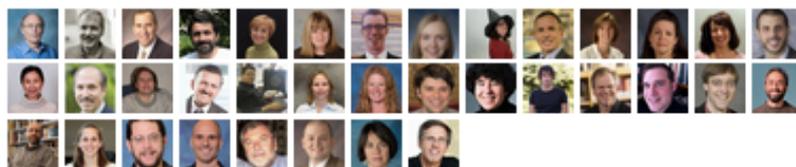
Papers

3382



Paper

## Researchers:



[Add Researcher](#) [Show All](#)

## Narrow by:

- [Digital Collections](#)
- [Journals](#)
- [Schools and Programs](#)
- [University Centers, Institutes, and Research Centers](#)

[Add Subgroup](#) [Show All](#)

- [All \(61177\)](#)
[Government Document \(31043\)](#)
[Article \(11883\)](#)
[Thesis / Dissertation \(6209\)](#)
[Conference Paper \(3552\)](#)
[Paper \(3382\)](#)
[PrePrint \(2306\)](#)
- [Other \(931\)](#)
[Book \(600\)](#)
[Book Chapter \(552\)](#)
[Report \(342\)](#)
[Other \(252\)](#)
[Letter \(31\)](#)
[Video \(26\)](#)
[Image \(21\)](#)
[Presentation \(12\)](#)
[Patent \(7\)](#)
- [Audio \(7\)](#)
[Case \(5\)](#)
[Syllabus \(5\)](#)
[Interview \(3\)](#)
[Poster \(3\)](#)
[Code \(2\)](#)
[Figure \(1\)](#)
[Data \(1\)](#)
[Web Page \(1\)](#)

[Export Data](#)

[Filter...](#)

[Analytics](#)

## Impact by Type: All



# Gracias

Olga Alarcón – Regional Sales Manager  
[oalarcon@ebSCO.com](mailto:oalarcon@ebSCO.com)