

## Sigismondi Costantino

Position: Professor  
Period covered: November 2014/ November 2015



### **I Scientific Work**

In three fields: education, light curves of novae (photometry in Visual band), solar metrology.

Selection of Relativistic themes presented to high school students in the context of IYL2015 simplification of the language and of the mathematical load.

Measure in V band with 20 cm Telescope Schmidt-Cassegrain of Novae of SGR 2015 no. 2, 3, 4; participation to AAVSO observational campaigns and HST Science Institute preparational campaigns, with preliminary results on <http://www.astronomerstelegam.org/?read=8275>

Photometry of PHEMU 2015 with Io and Europa satellites of Jupiter.

Instrumental study to understand the anomaly of the measures of the solar diameter with the heliometer of Rio de Janeiro National Observatory focusing on the glass filter used.

### **II Conferences and educational activities**

*II a Conferences and Other External Scientific Work*

International Year of Light 2015 two public conferences June 21 and September 23. Public observations of the eclipse and of the spring equinox on March 20.

Link

<http://www.light2015.org/Home/Event-Programme/2015/Conference/Italy-Sunlight--Celestial-and-Magnetic-North-on-the-Meridian-Line.html>

<http://www.light2015.org/Home/Event-Programme/2015/Conference/Italy-Timing-the-fall-equinox.html>

International congress on Gerbert of Aurillac, scientist and Pope of year 1000, focused on Music theory for 2015 edition in Sapienza University.

Link

[www.icra.it/gerbertus](http://www.icra.it/gerbertus)

Conferences in Cosmology and Fundamental Physics at University Regina Apostolorum:

link

[http://www.uprait.org/index.php?option=com\\_eventlist&view=details&id=410&lang=en](http://www.uprait.org/index.php?option=com_eventlist&view=details&id=410&lang=en)

101<sup>st</sup> Congress of Italian Physical Society, Rome Sapienza University September 2015

Marcel Grossmann Meeting XIV, Rome Sapienza University July 2015

### *II b Work With Students*

Alessio Mimmo and Massimo Carinci Physics graduated students at the Sapienza University on experimental solar metrology, with Astrophysics' chair Paolo De Bernardis

### *II c Diploma thesis supervision*

Diploma thesis: in University Regina Apostolorum diploma Master in Science and Faith, topics on History of Astronomy and Cosmology.

### *II d Other Teaching Duties*

### *II e. Work With Postdocs*

## **III. Service activities**

### *III a. Within ICRANet*

Notte Europea dei Ricercatori on the observations of Novae in 2015 and on the measurements of the solar diameter. 25 september 2015

### *III b. Outside ICRANet*

Full professorship at IIS Federico Caffè High School in Rome on Physics and Laboratory with 160 students

## **IV. Other**

### **2015 List of Publication**

1) Astrometry and numerical methods for the solar heliometer at Observatorio Nacional in Brasil  
Andrei, A.; Boscardin, S.; Penna, J.; Sigismondi, C.; Reis Neto, E.; d'Avila, V. Proceedings of the Journées 2014 "Systèmes de référence spatio-temporels":Recent developments prospects in ground-

based and space astrometry, held at Pulkovo Observatory from 22 to 24 September 2014, Z. Malkin & N. Capitaine (eds.), ISBN 978-5-9651-0873-2 & ISBN 978-2-901057-70-3, p. 248-249

Bibliographic Code: 2015jsrs.conf..248A

2) Measures of the Earth obliquity during the 1701 winter solstice at the Clementine meridian line in Rome,

Andrei, A.; Sigismondi, C.; Regoli, V., Proceedings of the Journées 2014 "Systèmes de référence spatio-temporels": Recent developments prospects in ground-based and space astrometry, held at Pulkovo Observatory from 22 to 24 September 2014, Z. Malkin & N. Capitaine (eds.), ISBN 978-5-9651-0873-2 & ISBN 978-2-901057-70-3, p. 116-117

Bibliographic Code: 2015jsrs.conf..116A

3) 6 Years After the Inauguration of the Heliometer at Observatório Nacional

Humberto Andrei, Alexandre; Amorim D'Avila, Victor; Reis Neto, Eugenio; Lousada Penna, Jucira; Calderari Boscardin, Sergio; Sigismondi, Costantino, IAU General Assembly, Meeting #29, #2243377

Bibliographic Code: 2015IAUGA..2243377H

4) Analysis of the Solar Diameter Variations at July, 1986 and the Geomagnetic Storm of March, 1989

Humberto Andrei, Alexandre; Garcia, Marcos A.; Papa, Andres R. R.; Calderari Boscardin, Sergio; Lousada Penna, Jucira; Sigismondi, Costantino, IAU General Assembly, Meeting #29, #2235993

Bibliographic Code: 2015IAUGA..2235993H

5) The Eddington's Eclipse and a Possible Replica of the Experiment of Light Bending

Sigismondi, Costantino eprint arXiv:1507.03879

Bibliographic Code: 2015arXiv150703879S

6) Optical Deformations in Solar Glass Filters for High Precision Astrometry

Sigismondi, Costantino; Humberto Andrei, Alexandre; Calderari Boscardin, Sérgio; Lousada Penna, Jucira; Reis-Neto, Eugênio eprint arXiv:1507.03636

Bibliographic Code: 2015arXiv150703636S

7) Transits of Venus and Solar diameter measures from ground: method and results from Athens (2004) and Huairou (2012), Sigismondi, Costantino; Ayiomamitis, Anthony; Wang, Xiaofan; Xie, Wenbin; Carinci, Massimo; Mimmo, Alessio eprint arXiv:1507.03622

Bibliographic Code: 2015arXiv150703622S

8) Observational Accuracy of Variable Stars, Novae and Supernovae from Naked Eye to General Relativistic Standard: a Balance over Thousand SGQ Observations Sent to AAVSO, Sigismondi, Costantino eprint arXiv:1506.03770

Bibliographic Code: 2015arXiv150603770S

9) Declinazione magnetica: storia delle prime misure e misura con l'azimut del Sole

Sigismondi, Costantino

Gerbertus, Vol. 9, p. 1-8, 2015

Bibliographic Code: 2015Gerbertus...9...1S

10) Stelle e pianeti artificiali per esperimenti di ottica ondulatoria al telescopio

Sigismondi, Costantino

Gerbertus, Vol. 8, p. 91-94, 2015

Bibliographic Code: 2015Gerbertus...8...91S

11) Gerbertian paths for the Jubilee

Sigismondi, Costantino

Gerbertus, Vol. 8, p. 83-90, 2015

Bibliographic Code: 2015Gerbertus...8...83S

12) Problemi e di Fisica e Astronomia ed il metodo di Gerberto docente, Sigismondi, Costantino

Gerbertus, Vol. 8, p. 39-64, 2015

Bibliographic Code: 2015Gerb....8...39S

13) Venus Transits: History and Opportunities for Planetary, Solar and Gravitational Physics

Sigismondi, C.; Wang, X.; Rocher, P.; Reis Neto, E., The Thirteenth Marcel Grossmann Meeting: On Recent Developments in Theoretical and Experimental General Relativity, Astrophysics and Relativistic Field Theories - Proceedings of the MG13 Meeting on General Relativity (in 3 Volumes). Edited by ROSQUIST KJELL ET AL. Published by World Scientific Publishing Co. Pte. Ltd., 2015. ISBN #9789814623995, pp. 2369-2371 DOI: 10.1142/9789814623995\_0443

Bibliographic Code: 2015mgm..conf.2369S

14) Transits of Venus and the Astronomical Unit: Four Centuries of Increasing Precision, Sigismondi, C.

pp. 2064-2066

DOI: 10.1142/9789814623995\_0358

Bibliographic Code: 2015mgm..conf.2064S

15) Tower bells and time zones, a history of ynsynchronization, Sigismondi, Costantino, eprint arXiv:1412.8661

ArteScienza, Online Journal, num. 2, pag. 129-137 (2014)

Bibliographic Code: 2014arXiv1412.8661S

16) Measures of the Earth Obliquity during the 1701 Winter Solstice at the Clementine Meridian Line in Rome, Humberto Andrei, Alexandre; Sigismondi, Costantino; Regoli, Veronica, eprint arXiv:1412.6096

Bibliographic Code: 2014arXiv1412.6096H

17) PHEMU congress 2015

Visual observations of mutual eclipses of Galileian satellites with small telescopes under city lights

Costantino Sigismondi, proc. Of the congress, Paris 14-18 October 2015

18) The 2016 transit of Mercury and the solar diameter measurement, Solar metrology congress Royal Observatory of Belgium, 21 September 2015

<ftp://ftp.latmos.ipsl.fr/outgoing/MEFTA/>

19) La Luna piena nel Presepio [http://www.assculturale-arte-scienza.it/Rivista%20ArteScienza/ArteScienza\\_N2/Costantino%20Sigismondi/Sigismondi-](http://www.assculturale-arte-scienza.it/Rivista%20ArteScienza/ArteScienza_N2/Costantino%20Sigismondi/Sigismondi-La%20Luna%20piena%20nel%20presepio.html)

[La%20Luna%20piena%20nel%20presepio.html](http://www.assculturale-arte-scienza.it/Rivista%20ArteScienza/ArteScienza_N2/Costantino%20Sigismondi/Sigismondi-La%20Luna%20piena%20nel%20presepio.html) ArteScienza, Online Journal, num. 2, pag. 138 (2014)