

Publications on Space physics

Публикации по Космическа физика

1. Space Impact on the Environment

1. Космически въздействия върху околната среда

a. Solar terrestrial relations

(Solar Activity, Solar Irradiance and its impact on Global Climate Changes, solar forcing of the climate)

а. Слънчево- земни връзки

(слънчева активност, слънчева светимост и влиянието им върху Глобалните промени на климата, слънчево форсиране на климата)

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.Shopov Y. (2013) Ultra- High Resolution Speleothem Records – How Far We Can Push The Time Resolution? Proc. of 16th International Congress of Sp., Czech Republic, Brno, July 21 –28, 2013, ed, by Michal Filippi, Pavel Bosak, pp. 450-452

.Shopov Y., D. Stoykova, L. Tsankov, U. Sauro, A. Borsato, F. Cucchi, P. Forti, L. Piccini, D. C. Ford, C. J. Yonge. (2013) Variations of Annual Karst Denudation Rates in the Last Two Millennia obtained from Speleothem Records. Proc. of 16th International Congress of Sp., Czech Republic, Brno, July 21 –28, 2013, ed, by Michal Filippi, Pavel Bosak, pp. 453-457.

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b.- *Geophysical Research Abstracts*, Vol. 8, (2006) 07640

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. **Shopov Y., L.** Tsankov, A. Damyanova, Y. Damyanov, L. Georgiev, E. Marinova, C. Yonge, D. Ford (2001) Quantitative Annual Speleothem Records of Temperature, Precipitation and **Solar Insolation** in the past – A Key for Characterization of past climatic systems. - Proceedings of the XIII-th UIS Congress, Brazil (2001) s.1, 188- 191

b. – Extended abstracts of the International Workshop “Cave climate and Paleoclimate- Best Record of the Global Change, Stara Zagora, Bulgaria, 24-27 September, 2002, pp. 40-43.

.**Shopov Y. Y.,** D. C. Ford, C. Yonge, W. MacDonald, L. Georgiev, M. Sanambria, V. Dermendjiev, Al. Benderev, G. Buyukliev, S. Georgiev, M. Delchev, M. Sirakova (1998) High Resolution Records of Climatic Variations and **Solar Forcing** from the Luminescence of Speleothems- in: "Global Karst Correlation"- Chapter 15, ed. by Y. Daoxian & L. Zaihua, Science Press, New York and VSP BV-Utrecht, The Netherlands & Tokyo pp.269-289. **ISBN 7-03-006837-8; ISBN 1-880132-32-X; ISBN 90-6764-286-X**

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Shopov Y. Y., Ford D. C., Schwarcz H. P. Luminescent Microbanding in speleothems: High resolution chronology and paleoclimate. - Geology, v.22, p.407 -410.

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.**Shopov Y. Y.,** Ford D. C., Morrison J., Schwarcz H. P., Georgiev L. N., Sanambria M. E., Dermendjiev V., Buyukliev G. High resolution records of Quaternary **Solar Activity**, Climate and Variations- GSA Abs., v.24 (7), 268. **ISSN 0016-7592**

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.Shopov Y. Y. Laser Luminescent MicroZonal Analysis- A New Method for Investigation of the Alterations of the Climate and **Solar Activity** during Quaternary- in "Problems of K. Study of Mount. Countries", Ed. By T. Kiknadze, MEISNIEREBA, Tbilisi, pp.228-232,

b. Orbital Variations of the Earth's Orbit and their influence over Glacial Periods
б. Орбитални вариации на земната орбита и тяхното въздействие върху глобалните промени на климата.

.Shopov Y. (2013) Solar Impact on Global Climate Changes. 4rd School and workshop on space plasma physics, August 19–26, 2012, Albena Resort (Bulgaria), *AIP Conf. Proc.*, v. 1551, pp. 179- 188; doi: 10.1063/1.4818867

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b. –VIII Nat. Conf. with International Participation on Modern Problems of Solar- Terrestrial Interactions, 6– 7 Dec. 2001, Sofia, pp.99-102.

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c. Cosmic Rays Impact on the Global Climate Changes
в. Въздействия на Космичните лъчи върху климата

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d. Solar Modulation of the Geomagnetic Activity and the related Processes

г. Слънчева модулация на геомагнитната активност и зависещите от нея процеси.

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2. Solar physics (Heliophysics)

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.**Shopov Y. Y.**, L. Tsankov, St. Belchev, St. Stoev, D. Kokotanekov, J. Kokotanekova, A. Stoev, **D. A. Stoykova**, A. Tanev, D. Petrov, K. Burin, T. Yalamov, Momcheva, L. Vrigazov, A. Krumov, V. Rusanov, D. Ivanov, M. Tsvetkov, Ch. Lukarski, L. Ivanova, A. Paneva, T. Ostromsky and P. Delchev- Correlated Photometric Observations of the National Programme for Research of the Total **Solar Eclipse** (on August, 11, 1999) - proceeding of the VI-th National Conference of the Solar- Terrestrial Influences, 18- 19 November 1999, Sofia, pp. 26-28 (in Bulgarian).

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.Dermendjiev V., **Shopov Y. Y.** New indirect data on Solar Activity and the Reality of the Maunder and Sporer minima. - In book "Solar- terrestrial Variability and Global Change", ed. by W. Schroder, J.P. Legrand, Int. Commission on history of IAGA, Bremen- Roennebeck, Germany, pp.145- 153. ISBN **0-521-46194-4**

Heliospheric physics **Хелиосферна физика**

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3. Publications of Space Weather 3. Публикации по Космическо време

.**Stoykova D. A.**, **Y. Y. Shopov**, L. T. Tsankov, C. J. Yonge (2008) Origin of the Climatic Cycles from Orbital to Sub-Annual. *Journal of Atmospheric and Solar-Terrestrial Physics*, v. 70, pp. 293–302, doi:10.1016/j.jastp.2007.08.018

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.**Shopov Y. Y.**, C. J. Yonge, W. MacDonald, A. J. T. Jull, D. C. Ford **Cosmic Rays**, Solar Activity and a Possible Supernova Explosion in the last 250 000 years. – Poster at the 23-rd International Cosmic Rays Conference, Calgary,

.**Shopov Y. Y.**, D. C. Ford, C. J. Yonge, A. J. T. Jull High- Resolution Reconstructions of **Cosmic Rays and Galactic Cosmic Rays** Variations in the last 42 000 years. – Poster at the 24-th International Cosmic Rays Conference, Rome

.**Shopov Y. Y.**, V. Dermendjiev, G. Buyukliev Astrophysical Effects and **Solar- Terrestrial Relationships** Recorded by the Conventional Indirect Indexes and the new LLMZA index of the **Solar Activity** in the Past- in book: "ICSU Round Table on Space and Solar influences on the Environment" (ed. by S. Radicella and K. Serafimov), p.55- 72.

4. Study of Asteroids and Comets interactions with the Sun and Earth 4. Изследвания на взаимодействието на астероиди и комети със Слънцето и Земята

I. Study of collisions of asteroids and comets with the Sun and planets and their consequences.
I. Изследвания на сблъсъци на астероиди и комети със Слънцето и планетите и техните
последствия.

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