

SpES, studying solar-terrestrial physics from a global Earth science perspective

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In this contribution, we present to the CREDO community the SpES (Space & Earth Sciences) research group of the University of Extremadura, which is a member of the CREDO consortium. This research group attempts to make significant advances in Earth sciences using a global perspective. Its main research areas are Solar-Terrestrial Physics, Climatology, Meteorology, and History and Teaching Geosciences.

This research group has worked intensively over the last two decades to provide the international community with a better reconstruction of solar activity over the last four centuries from documentary sources [1-3]. Currently, it is responsible for guarding the HASO (Historical Archive of Sunspot Observations). In addition, it has demonstrated the ability to analyze and diagnose large solar-terrestrial events of the past such as the intense geomagnetic storms of 1870 [4] and 1903 [5]. In particular, it has used statistical analyzes to demonstrate that, from a space weather point of view, we do not expect events significantly larger than those already observed [6-7].

Finally, we would like to highlight the interest of SpES in history [8], teaching [9] and the dissemination of Earth and Space sciences, where the interest of this research group in the CREDO experiment is clearly manifested [10].

1. F. Clette et al. 2014. *Space Science Reviews* 186, 35. DOI: 10.1007/s11214-014-0074-2
2. A. Muñoz-Jaramillo, J.M. Vaquero. 2019. *Nature Astronomy* 3, 205. DOI: 10.1038/s41550-018-0638-2
3. R. Arlt, J.M. Vaquero. 2020. *Living Reviews in Solar Physics* 17, 1. DOI: 10.1007/s41116-020-0023-y
4. J.M. Vaquero et al. 2008. *Journal of Geophysical Research* 113, A08230. DOI: 10.1029/2007JA0129431870
5. H. Hayakawa et al. 2020. *Astrophysical Journal Letters* 897, L10. DOI: 10.3847/2041-8213/ab6a18
6. F.J. Acero et al. 2018. *Astrophysical Journal* 853, 80. DOI: 10.3847/1538-4357/aaa406
7. F.J. Acero et al. 2018. *Geophysical Research Letters* 45, 9435. DOI: 10.1029/2018GL079676
8. J.M. Vaquero. 2017. *History of Geo- and Space Sciences* 8, 53. DOI: 10.5194/hgss-8-53-2017
9. I. Tovar, J.M. Vaquero. 2023. *The Physics Teacher* 61, 100. DOI: 10.1119/5.0058890
10. P. Homola et al. 2020. *Symmetry* 12, 1835. DOI:10.3390/sym12111835

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