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OUR REFERENCE

YOUR REFERENCE

LEUVEN

2015-04-04

**Subject:** Request for EU support solar and heliospherical physics and space weather

Dear Mr. Augusto González ,

From reliable sources I learned that the Space draft work programme 2016-2017 is currently defined. Unfortunately, I also learned that solar and heliospherical physics and space weather are underrepresented in the draft programme with no budget at all for 2016 and only 3 M€ foreseen in the PROTEC call 2017 so far. Even though in 2017 there will also be some money for heliophysics but competing within the same call as exoplanets and the Moon(!) this is very meager, and as Chair of the European Space Weather Working Team I am very concerned about this.

As a matter of fact, during the H2020 workshops in Madrid and Brussels (2012-2013) I already pointed towards the large socio-economic impact of this research domain. As a matter of fact, the detectable effects of solar activity on Earth appear in a broad spectrum of time and length scales and have various harmful consequences for human health and for our technologies on which we are ever more dependent. Bad 'space weather' conditions can hinder or damage satellite operations and communication and navigation systems and even cause power grid outages leading to a variety of *tremendous socio-economic losses*. As a matter of fact, the cost of a severe space storm has been estimated to be in the trillion dollar regime for the first year after the storm (with recovery times of 4 to 10 years) and for the United States alone<sup>1</sup>, an order of magnitude more than that of Hurricane Katrina<sup>2</sup>. On average, the costs of direct and indirect space weather effects has been estimated to 10 B€/year in Europe alone. If, by studying and better understanding and predicting these effects, we can reduce these costs by as little as 1%, Europe can save 100 M€/year!

Hence, it is very difficult to understand that the EU seems not to be willing to invest more in this research domain. The mentioned 3 M€ in 2017 is for 3 years, so only 1 M€/yr. Clearly, I do not know how much we have to invest to reduce the mentioned damage by 1%, but 10 M€/year seems reasonable. So if the foreseen budget is multiplied by 10, Europe could get the ten-fold of this investment back.

Yours Sincerely,



Prof. Dr. Stefaan Poedts  
Chair of the SWWT

<sup>1</sup> Severe Space Weather Events – Understanding Societal and Economic Impacts: A Workshop Report. The National Academies Press, 2008.

<sup>2</sup> Global Risk Dialogue Report, Allianz, 2009.