



UNIVERSITÉ DE TECHNOLOGIE DE BELFORT-MONTBÉLIARD

A second Carrington Event: What we know and what we need to do

CONFÉRENCE

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Avec le

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> La conférence (en anglais)

The Solar System is 4.6 billion years old and is dominated by the Sun. Our nearest star is a 'cosmic shotgun' in terms of the charged particles and electromagnetic radiation it emits. For example, geomagnetic storms are the result of Earth's magnetosphere being severely distorted as a result of bombardment by highly energetic solar wind particles. This can have profound effects on orbiting spacecraft as well as ground-based telecommunications, electricity distribution, and even oil and gas pipelines. The so-called Carrington Event of early September, 1859, was the worst geomagnetic storm in 500 years. Named after Astronomer, Richard Carrington (1826-1875), it resulted in telegraph systems malfunctioning, machines bursting into flames, compasses being rendered obsolete, and blood-red aurorae being visible as far south as the equator. A 'Second Carrington Event' could be devastating as we are much more reliant on electrical energy and other advanced technologies than we were in 1859. This presentation is devoted to analyzing the possible implications of such a scenario in an interdisciplinary and deterministic fashion.