

## VON HUMBOLDT AND THE BIRTH OF SOLAR-TERRESTRIAL PHYSICS

E.W. CLIVER 1, Kristian Schlegel 2

1 Space Vehicles Directorate, Air Force Research Laboratory, Hanscom AFB, MA,  
USA, e-mail: [afrl.rvb.pa@hanscom.af.mil](mailto:afrl.rvb.pa@hanscom.af.mil)

2 Copernicus Gesellschaft, 37191 Katlenburg-Lindau, Germany, email:  
[schlkr07@email.de](mailto:schlkr07@email.de)

Alexander von Humboldt can rightly be called the godfather of solar-terrestrial physics. During the first half of the 19<sup>th</sup> century, he was a key instigator for the establishment of geomagnetic observatories throughout the world. It was in the recordings from two of these observatories that Sabine was able to discern – in a mere six years of data – a minimum and maximum of geomagnetic activity that corresponded exactly to the minimum and maximum of the sunspot cycle. The sunspot cycle of “about 10 years”, first reported by Schwabe in 1843, was largely ignored by astronomers until von Humboldt reproduced Schwabe’s updated results in volume III of *Kosmos* in 1851. Sabine’s wife translated *Kosmos* to English in 1852, giving him early access to Schwabe’s results. Thus, von Humboldt figured in both the solar and the terrestrial side of Sabine’s Sun-Earth connection, of which John Herschel, in a letter to Faraday wrote, “If all this be not premature we stand on the verge of a vast cosmical discovery such as nothing hitherto imagined can compare with.”

Von Humboldt, solar-terrestrial physics

Edward W. Cliver, AFRL/RVBXS, 29 Randolph Rd, Hanscom AFB, MA, 01731-3010, USA; e-mail: [edward.cliver@hanscom.af.mil](mailto:edward.cliver@hanscom.af.mil)