

Magnetometer – a workhorse in space weather monitoring and research

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According to the Cambridge dictionary the term workhorse can be used e.g. for “a machine that operates without failing for long periods, although it might not be very interesting or exciting.” This definition can come into your mind, when thinking the role of magnetic field recordings in space weather research and operations. In the presentation we will discuss the achievements of this workhorse with emphasis in space weather phenomena at high latitudes. We will review some examples from single point ground-based measurements to extensive network measurements as useful inputs for our improved understanding on solar-terrestrial interactions. Some pitfalls in ground-based magnetometer data interpretation will be addressed. The “workhorse with wings”, i.e. space-based magnetic field measurements will be discussed in the latter part of our presentation, and again the focus will be at high latitudes as monitored with Low-Earth-Orbit polar satellites and particularly with the troika of the ESA Swarm satellites as a fascinating example.