



## **Swarm Electric Field Instruments: Science Accomplishments and Prospects**

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Throughout Swarm's first four years in orbit, quality of data from the Swarm Electric Field Instruments has improved steadily as techniques for compensating for unexpected anomalies have been refined. Published scientific applications of the EFI data range from studies of current systems associated with pulsating aurora, multiple auroral arcs and newly-discovered "STEVE"-type arcs; to studies of magnetosphere-ionosphere coupling via Alfvén waves and Poynting flux; to the existence of intense plasma flows associated with quiet-time Birkeland current systems; and others. Recently-released datasets with improved baselines and flags are now available to expand the scientific uses of these data to include studies of long-term trends in addition to additional as-yet undiscovered phenomena.