

SMALL SATELLITE MISSIONS SYMPOSIUM (B4)  
Small Satellites Potential for Future Integrated Applications and Services (4)

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SMALL SPACE WEATHER SATELLITES AS A COMPONENT OF A SPACE SITUATIONAL  
AWARENESS VIRTUAL ORGANIZATION

**Abstract**

In this paper we discuss how recent advances in small satellites, microelectromechanical systems (MEMS), and knowledge management technologies can be combined to create a virtual organization of sensors that addresses the needs of the space situational awareness community. The space environment and its natural variation (space weather) exhibits variations on an enormous range of scales. These variations, which range from lengths of centimeters to thousands of kilometers, take place on timescales of fractions of seconds to years and affect a wide range of users. The challenge is to design an architecture that is flexible, expandable, and tailored to the users. These end users need specific products that comprise more than simple data, but are contextually appropriate, timely, and accurate and in total deliver knowledge for decision making.

In this paper we address how small satellites payloads can produce information that can be managed and distributed through an existing architecture to yield a sustainable environment for ensuring the peaceful use of space.