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SPACE WEATHER AND VIRTUAL ORGANIZATIONS

**Abstract**

Space weather, the changes in the near-Earth space environment, is important to a wide range of users as well as the public. The public is interested in a variety of phenomena including meteors, solar flares, the aurora, noctilucent clouds and climate change. Industry focus tends to be on more concrete problems such as ground-induced currents in power lines and communications with aircraft in transpolar routes as well as geolocation (i.e. the use of GPS systems to precisely map a function to a position). Other government-oriented users service specialized communities who may be more or less unaware of the research and development upon which the forecasts or nowcasts rely for accuracy. The basic research community may be more or less unaware of the details of the applications, or potential applications of their research. The problem, then, is that each of these constituencies may share elements in common but there is no umbrella organization that ties them together, nor is there likely to be such an organization.

In this paper we discuss how knowledge is shared in organizations and how a virtual organization can be formed. A key element of a “virtual” organization is that it is a fluid collection of members that share some means of communicating relevant information among themselves. The elements and direction of the virtual organization change with time. An imperfect analogy is the World Wide Web. We commonly speak of the “web” and the “internet community” yet there is no one organization that constitutes the WWW—yet it provides a high degree of functionality and evolves over time.

Our goal in this paper is to outline a scheme for a virtual organization, delineate the functions of that virtual organization and illustrate how it might be formed. We also will assess the barriers to knowledge transfer that must be overcome.