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# Magnetic topology, energetic particles and radiation in solar flares

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Solar active regions are generally regions of great magnetic complexity, and accordingly have complicated topology. Understanding of the magnetic topology of active regions is far from complete, but many theoretical structures such as nulls, spines, fans and (quasi) -separatrix layers can be identified in magnetic fields deduced from data, and are found to be clearly linked to observable features of flaring energy release, such as flare ribbons, and the footpoints where radiation from flare-accelerated particles is produced. Solar flares represent the rapid release of stored magnetic energy in the solar corona, thus the topology of the active region has a crucial bearing on how much free energy a particular structure can store, what changes in connectivity are permitted, and thus the magnitude of a flare. In this talk I will review some basic theoretical ideas and present the observational evidence for the central role of flare magnetic topology in the character and evolution of a flare. I will also discuss the role of the magnetic structures themselves in producing the accelerated particles.