Magnetic Reconnection and the particle acceleration process in Solar flares

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Magnetic reconnection is a fundamental plasma physics phenomenon involved in the large scale conversion of energy stored in magnetic fields into flow and heat of the surrounding plasma. Applications of reconnection are many; solar eruptions (flares and CMEs) and similar eruptions on other sun-like stars, substorms and solar wind-magnetospheric coupling in the geomagnetic magnetic field (relevant to the field of space weather), disruptive events in fusion plasmas, and various astrophysical settings. Emphasis will be given on particle acceleration process associated with the magnetic reconnection during solar flares.