# Birmingham Scientist Explores the Sun's Eruptions

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An academic from the University of Birmingham has been part of a team of scientists to launch two spacecraft that will make the first 3D moving pictures of the sun.

The two spacecraft were launched today from Cape Canavral in Florida and will they orbit the sun in tandem. The mission, called Stereo, will study violent eruptions on the sun known as coronal mass ejections.

Particles from coronal mass ejections (CMEs) and the 'space weather' created can be directed at the earth and and can damage power grids. They are also known to be hazardous to astronauts and air line companies by disrupting air and satellite communications . In order to understand, predict and protect against the effects of the Sun's outbursts such as CMEs, it is important to monitor our parent star very closely. CMEs are powerful eruptions that can blow up to 10 billion tonnes of material from the sun's atmosphere into space. By understanding these eruptions scientists can give up to 2 days warning as they will be able to predict when they will occur.

Dr Eyles, from the University of Birmingham's School of Physics and Astronomy, has been part of a team of UK scientists who have built the equipment on board the spacecrafts. He says, "One spacecraft will slowly move ahead of the Earth, the other lag behind - the resulting offset will allow the two spacecraft to have 'depth perception' and give them stereo vision such as humans have."

Professor Richard Harrison of the CCLRC Rutherford Appleton Laboratory (RAL), part of the UK team working on STEREO said, "Whilst our Sun may seem a calm familiar object in the sky, in reality it is rather more manic! It generates constantly changing knots of magnetic fields that twist and churn and, occasionally, snap like an over-stretched rubber band producing CME outbursts. At the moment, we cannot recognise the tell-tale signals that precede an outburst, but we expect STEREO will change that."

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