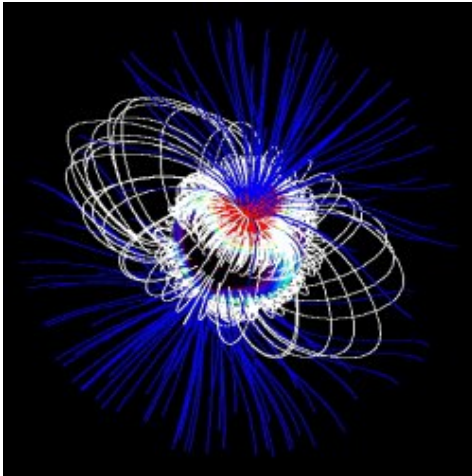


Spinning slowly in the web



University of St Andrews astronomers have succeeded in tracing the magnetic web that binds newly forming stars to their surrounding gas and dust. The findings will improve understanding of how stars, including the Sun, form.

The Scottish scientists were part of an international team led by French astronomer Jean-Francois Donati.

St Andrews researcher Dr Moira Jardine said, "This is the first time that we've been able to map the magnetic field of a star that is so young that it is still forming. We know that new stars form in molecular clouds and, as they collapse they should spin up - just like an ice-skater pulling in their arms to spin. That was the theoretical prediction anyway but, when young stars were first observed, it was found that they were in fact spinning quite slowly, contrary to the original prediction."

"We've thought for some time now that this rapid spinning is prevented by the magnetic web that links the new star to the disk of gas and dust out of which it formed. Now, for the first time, we've been able to trace the individual strands of this web along which gas drains out of the disk and onto the star. These new observations will help us to understand how stars like the Sun formed, and how their surrounding disks might evolve to form planets like our own".

The baby star in question (V2129 Ophiuchi) is only a few million years old and is so young that it is still forming. It is currently shrinking down to its adult proportions so, although it is about the same weight as the Sun, it is about 2.5 times its size. It can be found in the constellation Ophiuchus but, at a distance of 420 light years, is about a million times too faint to be seen with the naked eye.

The paper is published in *Monthly Notices of the Royal Astronomical Society*.

Source: University of St Andrews

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