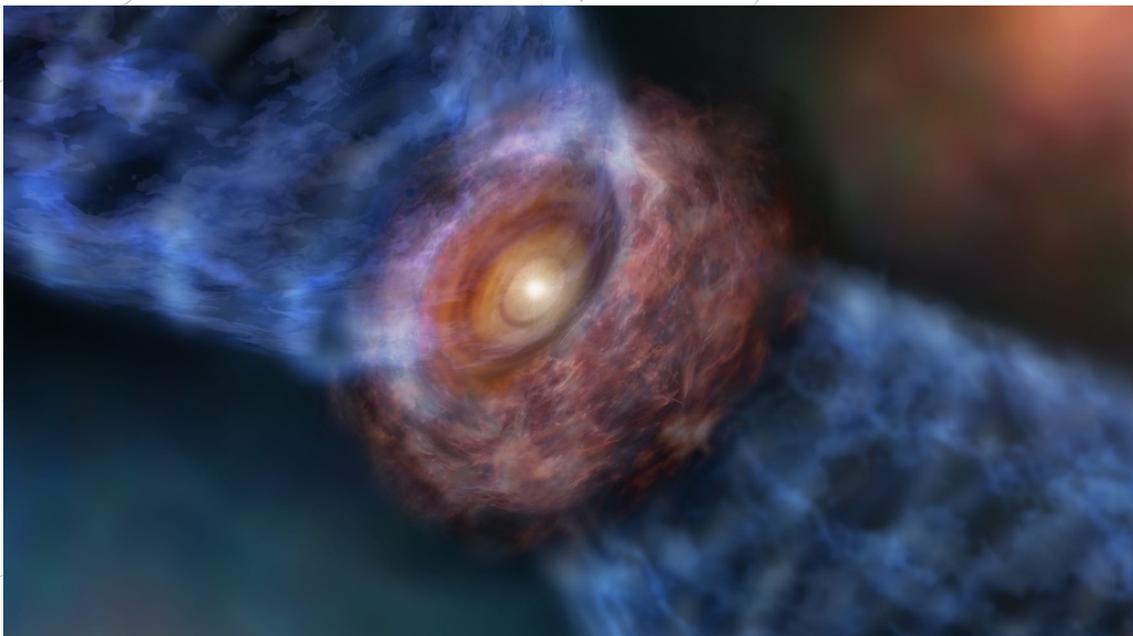# SPACE SCOOP
NEWS FROM ACROSS THE UNIVERSE

Which Will Slow First: a Star or a Fidget Spinner?
Aug. 18, 2017

Fidget spinners are the new yoyo or Rubik's cube. They are toys designed to keep fidgety hands busy and help concentration. To give you something to concentrate on, the Internet is filling up with new videos and articles about "the physics of fidget spinners".

The physics of spinning is an important topic in Astronomy because lots of cosmic objects spin. For example, Earth spins around its axis, the Sun spins around the centre of our galaxy, and cosmic gas spins when new stars are forming. Studying these spinning cosmic objects can tell a really interesting and unexpected story.

Stars form from clouds of cosmic gas floating in space. The clouds collapse, growing smaller, denser and hotter. When the core reaches a scorching 10 million degrees, the clump flares into life as a bright new star.

As the cloud shrinks, it also begins to rotate, spinning faster as it grows smaller. If you've played with a fidget spinner, you'll know that no matter how fast they go, they eventually slow down and stop. This is due to friction.

Within the vacuum of space, there's much less friction and newborn stars should be seen spinning rapidly. But, the massive stars in our Universe rotate much slower than expected. So, what is slowing them down?

Astronomers might have discovered the answer: jets of gas.

New images have shown gas pouring out of a massive star, as you can see on the picture above. The gas is spinning along with the star, causing it to lose energy and slow down.

To understand why, try spinning on a chair, first with your feet on the stand and then with your legs sticking out. You should notice that you slow down when you stick your legs out. In this demonstration your legs are the gas jets, slowing down the rotation of the star.

COOL FACT!

The world record for longest duration to spin a fidget spinner on a person's nose is 1 minute and 46 seconds. Can you beat it?