

Offered Title: We're Gonna Crash!

Well OK, in four billion years...give or take, our home galaxy the Milky Way, will get intimate with M31 the Andromeda galaxy. Our Milky Way and M31 are spiral galaxies, siblings in what we call the local group of galaxies. No need to panic.

Yeah, we're going to merge with our celestial sibling and that should be a fantastic sight. Even during the billion years prior to our hook up M31 will loom large in the sky. Well, maybe. In 3 billion years Earth will be way too hot for life, our oceans gone, our atmosphere a searing oven, all because the Sun's output will have increased by at least 10%. So, even if there is a sky, there will be no one around to marvel at the sight, at least on Earth. In four billion years will humans exist? I can barely think four years into the future.

Our Milky Way galaxy had been regarded as much smaller than M31 but recent research (February 2018) indicates the two galaxies have similar mass. This new evidence suggests the merger will commence a little differently than predicted with a larger M31. It will likely be messier, with both galaxies shredded, diced, and pulverized by each other. Our Milky Way galaxy and M31 are about 2.5 million light years away from each other. Our distance is closing at about 68 miles per second.

Just to complicate things, spiral galaxy M33 in Triangulum, another member of the local galaxy group, is also heading in our direction. At around 2.7 million light years it's a little farther from us than M31. However, a staggered triple merger might occur with M31 and the Milky Way going first, then M33 joining in.

Let's pretend we can see the merger happening. I'll speed time up and arrive at T-minus 500,000 years. M31 competes with the Milky Way for our attention in the sky. The sky is full of stars. Currently the two galaxies are beginning to distort each other due to gravitational affects.

But, not to worry. Galaxy mergers appear to be less traumatic at the local level than on the galactic scale. The galaxies will slip through each other with nary a scratch. Stars and other objects are so greatly separated its unlikely collisions will occur. This doesn't mean nothing happens. The supermassive black hole each has in its core could merge. Both galaxies become deformed as they go through the dance several times. They eventually just stay together, a merger of titans. The result? No one knows for sure, but astronomers predict an elliptical galaxy will be the end product. Elliptical galaxies are usually huge, spherical and non-descript. Think globular cluster with a trillion stars, a million light years away. A big fuzzy ball.

What's in the Sky?

April 17 & 18; After sunset; West: A waxing crescent Moon meets Venus on the 17th, the Hyades cluster and Aldebaran on the 18th.