



Credit: ALMA (ESO/NAO/JRAO), Artist Impression: A. Khan (National Science Foundation)

REVOLUTIONARY IMAGE

ALMA astronomers captured this incredible photograph that shows the birth of a solar system! Earth and the other seven planets in our Solar System are not alone in the Universe. To date, over 3,200 planets around far-away stars have been discovered, and this number continues to grow.

Stars and planets form when a giant cloud of cosmic dust collapses in on itself. Gas and dust begin to move in circles until falling into the center, just like whirlpools before going down the drain. The gas and dust that form there are so dense and hot that they generate a star. In the surrounding area, a spiraling cloud with excess gas and dust starts to separate into thick rings. This is the part of the story that has been captured in the new image from ALMA! For millions of years, particles from the thickest parts of the

ring clump together with others, growing and forming larger concentrations. As they grow in size, their gravity also increases, attracting more matter that lets them grow even more, until finally new planets are born! This new image of HL Tauri also tells us that planets can grow much faster than we thought. An observation of the first stages of planetary formation around HL Tauri can also show us how our own planetary system looked when it was formed over 4 billion years ago.