

SPACE SCOOP
NEWS FROM ACROSS THE UNIVERSE



Go Team ALMA!
Oct. 3, 2011

Welcome to the star-studded premiere of the most complex telescope on Earth: ALMA! To celebrate the launch of ALMA, astronomers have released the first photo taken by the telescope, which shows a pair of galaxies called the Antennae Galaxies.

ALMA doesn't look like a normal telescope. It is a group of 66 dishes, which look similar to the satellite dishes that are installed on the sides and on top of houses to pick up TV signals. But these dishes aren't tuned for the radio waves used to send TV programmes. Instead, they are designed to pick up a different type, called sub-millimetre waves.

These waves allow astronomers to study extremely cold stuff in space, such as the radiation given off by objects a very long time ago, and cosmic dust and cold gas. This means that sub-millimetre waves are perfect for studying galaxies, as the dust and cold gas that they contain trace out their shapes – like the black outlines in a colouring book.

ALMA is definitely a team effort: Not only have astronomers from Europe, North America and East Asia joined forces to build ALMA, but the telescope's dishes also work together! Sub-millimetre waves detected by different dishes are combined together to create much more detailed pictures than what a single dish could produce.

For this picture of the Antennae Galaxies, only 12 of ALMA's dishes were used because the telescope is still under construction. Even so, it is still the best image ever taken of these galaxies using sub-millimetre waves. If ALMA is this good already, imagine what it will be able to do when it is completely finished in 2013. The best is yet to come!

▲ COOL FACT!

ALMA is being built in a high-altitude desert in Chile, about 5000 metres above sea level! ALMA needs very dry air, because water in the atmosphere absorbs sub-millimetre waves. The air is much drier at high altitude.