It's so cool

The coolest thing in the universe is officially a small cloud of sodium atoms in a laboratory in Cambridge, Massachusetts. Physicists there have chilled 2000 sodium atoms to within half a billionth of a degree of absolute zero. "Nothing in the universe we know of is naturally this cold," says Aaron Leinbach, who led the research. Even deep space exists at a temperature 6 billion times higher.

To cool the atoms, the team from the MIT-Harvard Center for Ultracold Atoms trapped them with magnetic fields, then allowed the gas they form to slowly expand. The move breaks the Guinness World Record for the "lowest manmade temperature.

The team will experiment on these ultracold atoms to look for quantum effects and see if they can be harnessed to make more accurate atomic clocks (Science, vol 301, p 153).