

China's Micius Project: Timeline and Details

2003: a pre-study project "free-space quantum communications" was assigned by the Chinese Academy of Sciences (CAS) to test the feasibility of satellite-based quantum communications.

2004: Distribution of entangled photons over 13 km through noisy ground atmosphere over Hefei city was achieved, reaching a distance beyond the effective thickness of the aerosphere for the first time.

2007: The "Quantum Experiments at Space Scale" project aiming at developing key techniques for performing quantum experiments at the space scale was supported by CAS.

2007: Quantum teleportation over the Great Wall in Beijing with a distance of 16 km.

2010: Direct and full-scale experimental verifications towards ground-satellite QKD were implemented near Qinghai Lake in West China, on a moving platform (using a turntable), on a floating platform (using a hot-air balloon), and with a high-loss channel (96 km, ~50dB).

2011: Quantum teleportation and bidirectional entanglement distribution over ~100 km free-space channel were achieved over the Qinghai Lake⁴. The work showed the technical ability of handling the high-loss ground-to-satellite uplink channel and satellite-to-ground two-downlink channel.

2011: The "Quantum Science Satellite" project was officially approved by CAS.

2012: The construction of the first prototype satellite started.

2014: The first prototype satellite was completed.

2015: The flight model of the satellite was completed.

2016: The satellite passed through a series of environmental test, including, thermal vacuum, thermal cycling, shock, vibration, electro-magnetic compatibility.

2016: The Micius satellite, weighted 635 kg was launched at 1:40AM Beijing time, 16th August 2016, by a Long March-2D rocket, from the Jiuquan Satellite Launch Centre, China.