Manchester Space Programme

https://manchesterspaceprogramme.org/

Programme Overview

Manchester Space Programme was launched by a small community group on a Thursday night in 2014 in the heart of Manchester. The aim was to get an object into space and join the group of people engaged in space exploration around the world. The process involves using various launch vehicles to send packages (payloads) into the upper stratosphere. The Space Programme engages the local community and educational centres, to further promote the DIY space movement.

We have members from outside of and across the Greater Manchester area, coming from different nationalities and races. Our launches have been attended by local media and reported on TV. We have successfully secured funding from various sources including AutoTrader, UK Space Agency and TalkTalk.

Missions

We have currently 3 missions in progress: HAB, Pico and rocket launches.

HAB (high altitude balloon) launches are our bread and butter, these are large balloons that are commonly used by weather monitoring stations around the world. They are filled with helium and carry a payload into the upper stratosphere. The balloons then get carried by the jet stream, generally to the east before bursting and coming down by parachute. The payload can carry a camera and a set of electronics to measure flight path and atmospheric conditions.

Pico balloons are our new venture. These are party sized balloons and carry a very small payload, around 20 grams. They are normally used for circumnavigating around the world and generally float in the upper troposphere. We don't expect to recover them. Our Pico project is aimed at school children and we aim to get these made as packs that can be sold to schools. These will link to a custom made web site that will provide all the information about the payload while it is in flight and other mission statistics.

Rockets are also being made in parallel to the pico mission. The launch vehicles we have are model rockets which generally achieve the height of a few hundred meters, with the expectation that with more experience we will get to bigger rockets going higher and carrying bigger payloads. Currently we are using solid rocket motors with the idea of making our own in the future.

Timeline

March 2014	First meeting
July 2014	Attended MOSI's Maker Faire with live balloon demo
August 2014	Cancelled launch attempt
October 2014	First HAB launch, reached 30km (Doge 1)
June 2015	Second HAB Launch, reached 33.5km (Doge 2)
July 2015	Third HAB Launch, landed in an airbase, carried 2 payloads (Karen)
Feb 2016	Fourth HAB Launch(Theo)
March 2017	First HAB launch with Raspberry Pi and live picture feed (MspPi1)
May 2017	Stall at UK Space Conference
May 2017	Presentation to Bolton Astronomical Society
June 2017	Presentation to West Didsbury Astronomical Society

Resources

Project / Technical Contact: manchesterspaceprogramme@gmail.com

Videos: https://manchesterspaceprogramme.org/pages/media and https://www.youtube.com/channel/UC45tk89Qbr2xqGw6uqE4zkQ

Twitter: https://twitter.com/mcrspaceprog

We are also available on WhatsApp (use the project contact to get an invite).