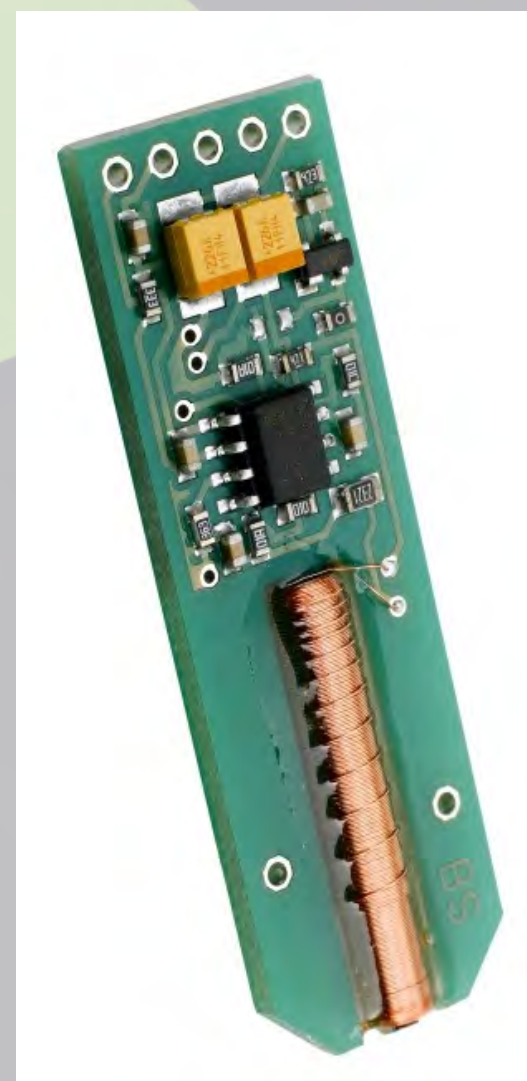
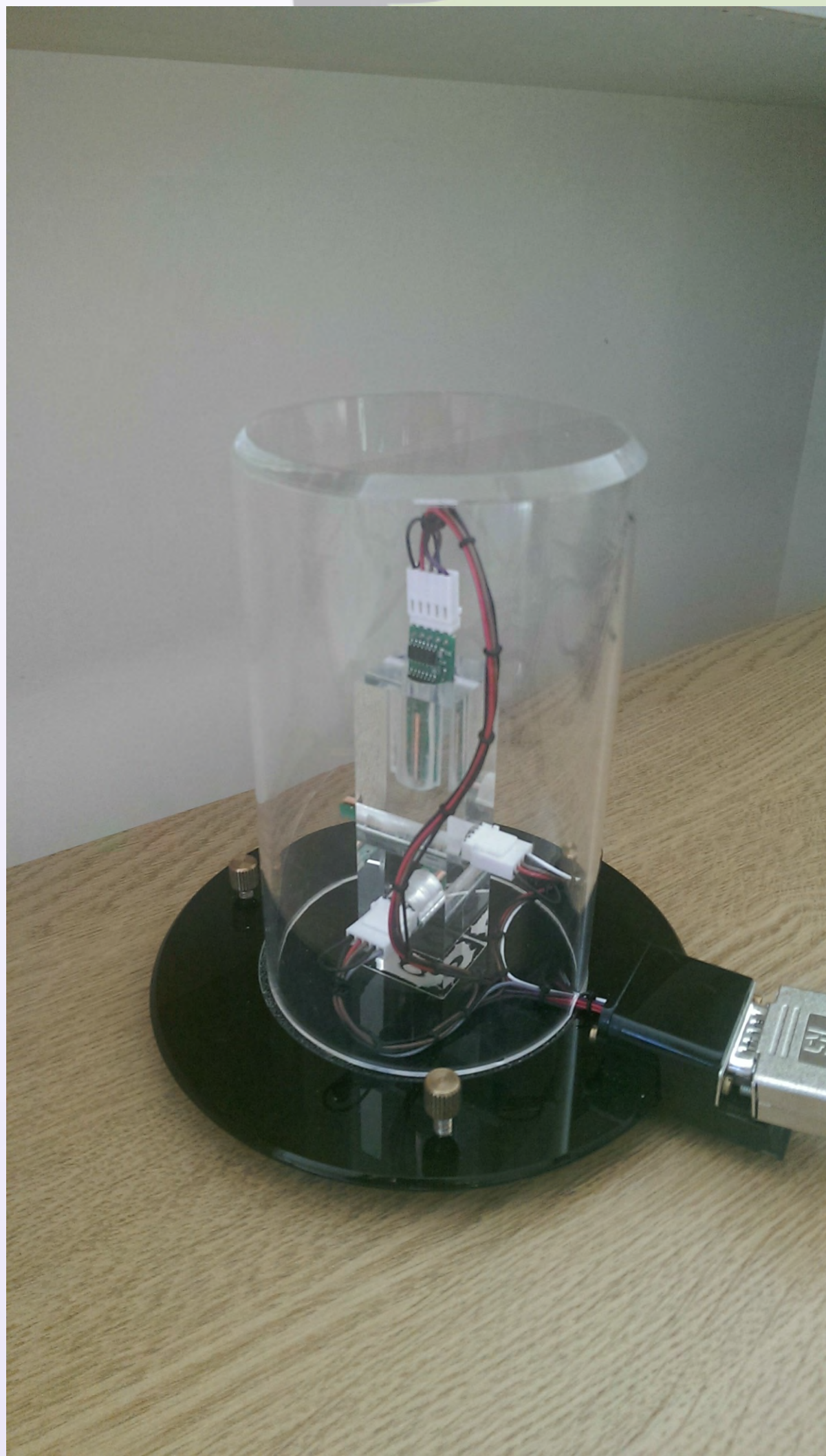


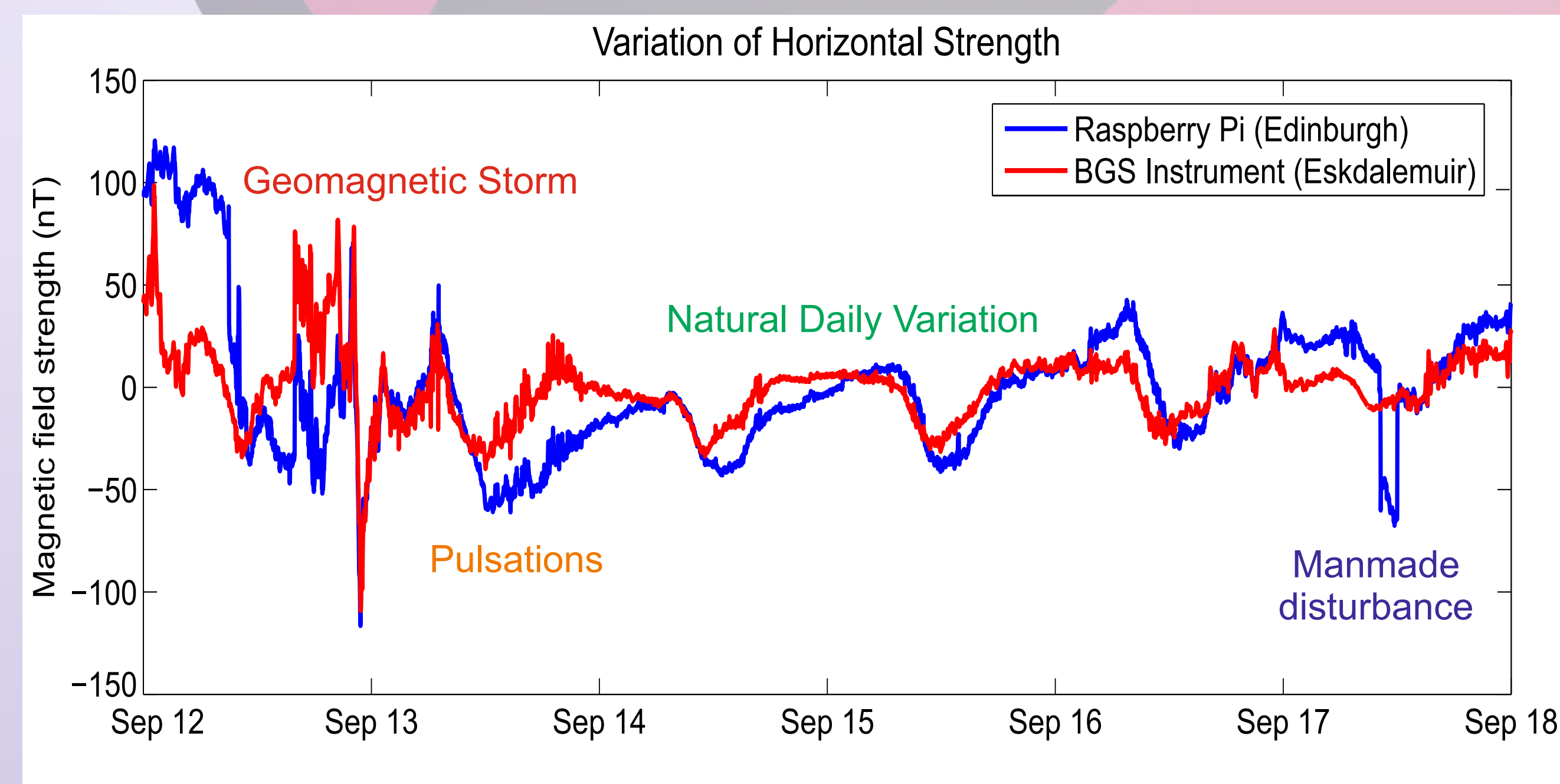
Raspberry Pi Magnetometer

A Raspberry Pi is a cheap credit-card sized computer. We have added a three-axis magnetometer that is useful for detecting **the magnetic effects of Space Weather** events such as geomagnetic storms, aurora borealis, solar flares and pulsations.

Each magnetometer contains three **fluxgate magnetometer** sensors to detect very small magnetic field changes.



The sensors are mounted in a perspex block and wired up to an analog to digital converter. The **analog to digital converter** is connected to a Raspberry Pi computer to power the sensor and record the measurements. The data can be shared on the internet or displayed on screen.



The Rpi magnetometer can almost match the accuracy of the scientific instruments at the BGS Eskdalemuir magnetic observatory (left). Root-mean-square differences of **around 1nT** were measured between the Rpi and the scientific sensors.