Taking data with the magnetometer

To take data, measure the position of the reflected laser light. When a geomagnetic storm occurs, the laser may slowly swing as much as a few centimeters and then return to its original position after the disturbance. If the laser changes direction quickly (in just a few seconds, for example), this is not evidence of geomagnetic activity. Rather, this indicates that something is interfering with the magnetometer locally. This could include cars going by, vibrations shaking the setup, or other nearby magnets affecting the reading. The magnetometer should be isolated from these effects as much as possible. For scientific purposes, magnetometers are usually buried deep underground where interference of this kind is minimal.