Controlled Descent – Single Balloon with Automatic Valve

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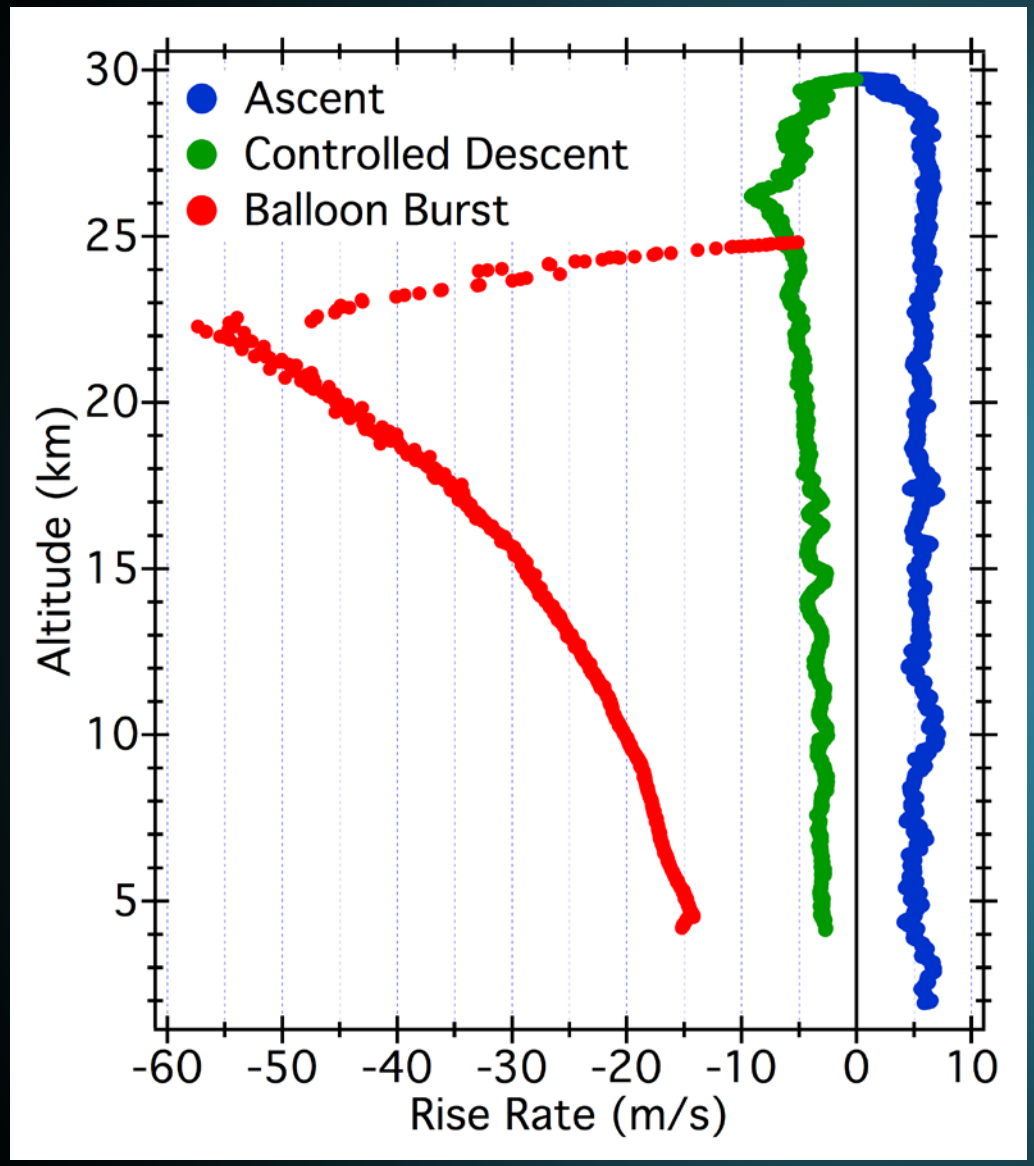
Why do we need Controlled Descent?



Advantages

Descent data are:

High resolution (5-10 m)

High quality (instrument response)

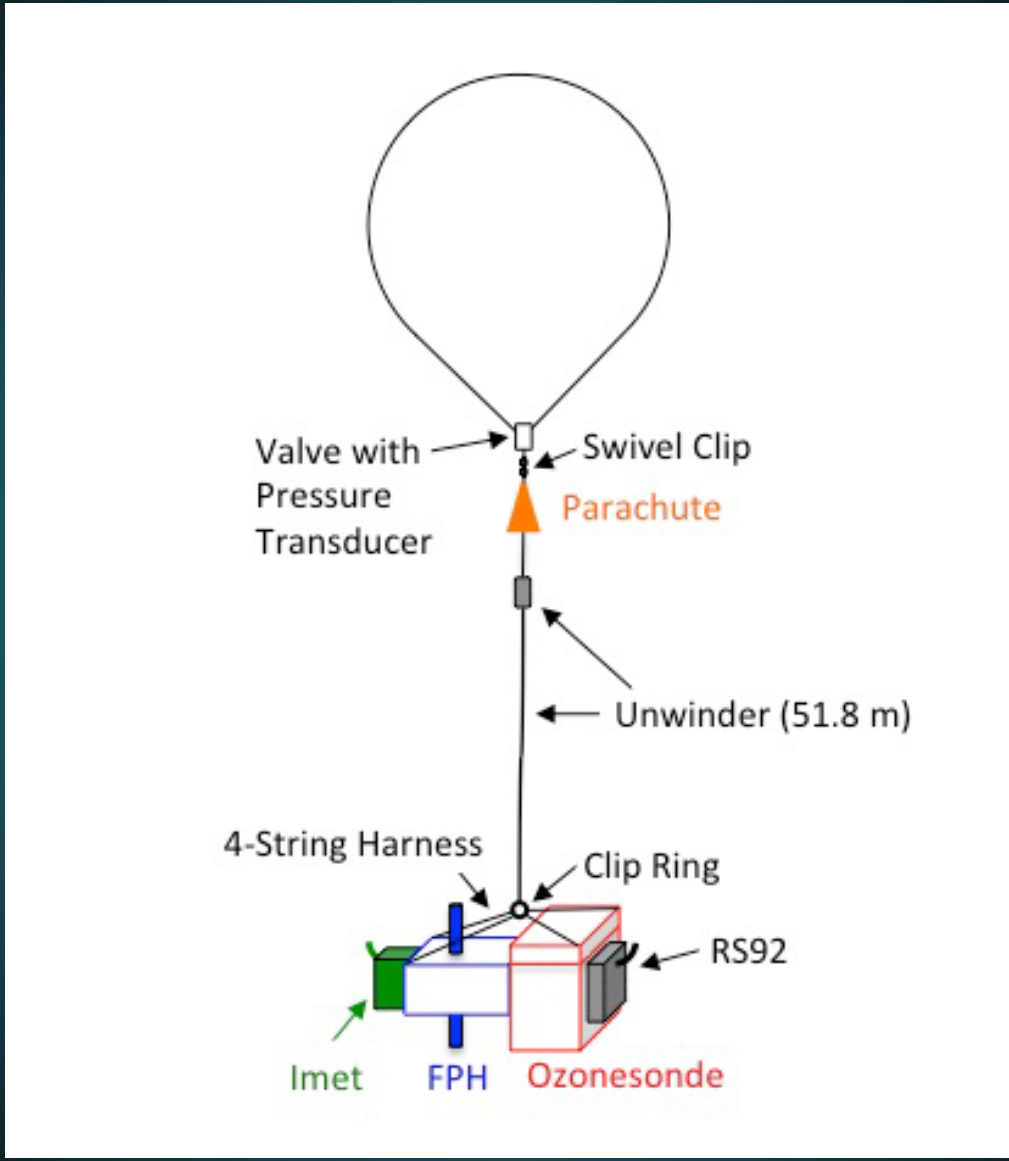
Free of moisture contamination from flight train

Disadvantages

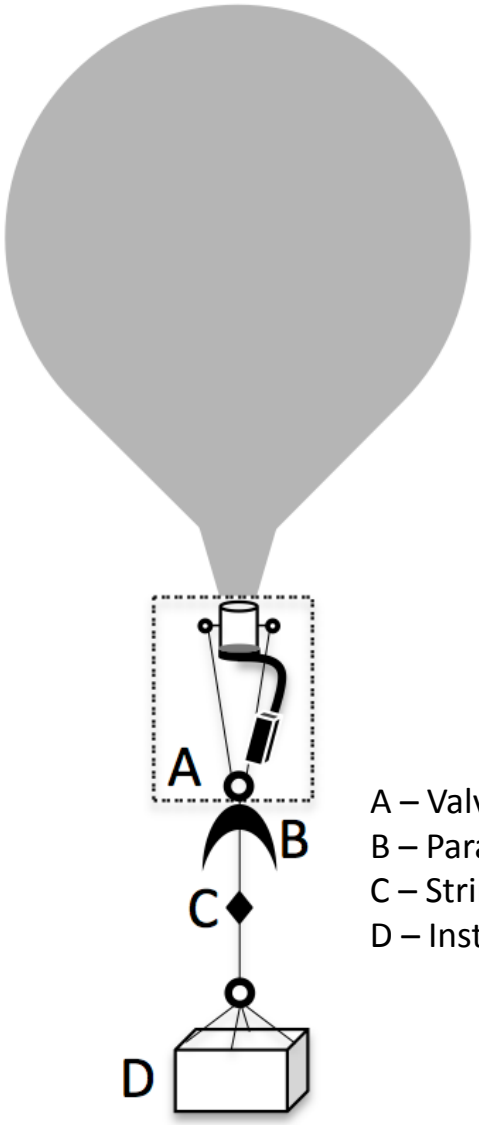
Some sensor orientations are not optimal for descent

Payload may travel farther from launch site

The Rigging


Valve with
Pressure
Transducer
Swivel Clip
Parachute
Unwinder (51.8 m)
4-String Harness
Clip Ring
RS92
Imet
FPH
Ozonesonde

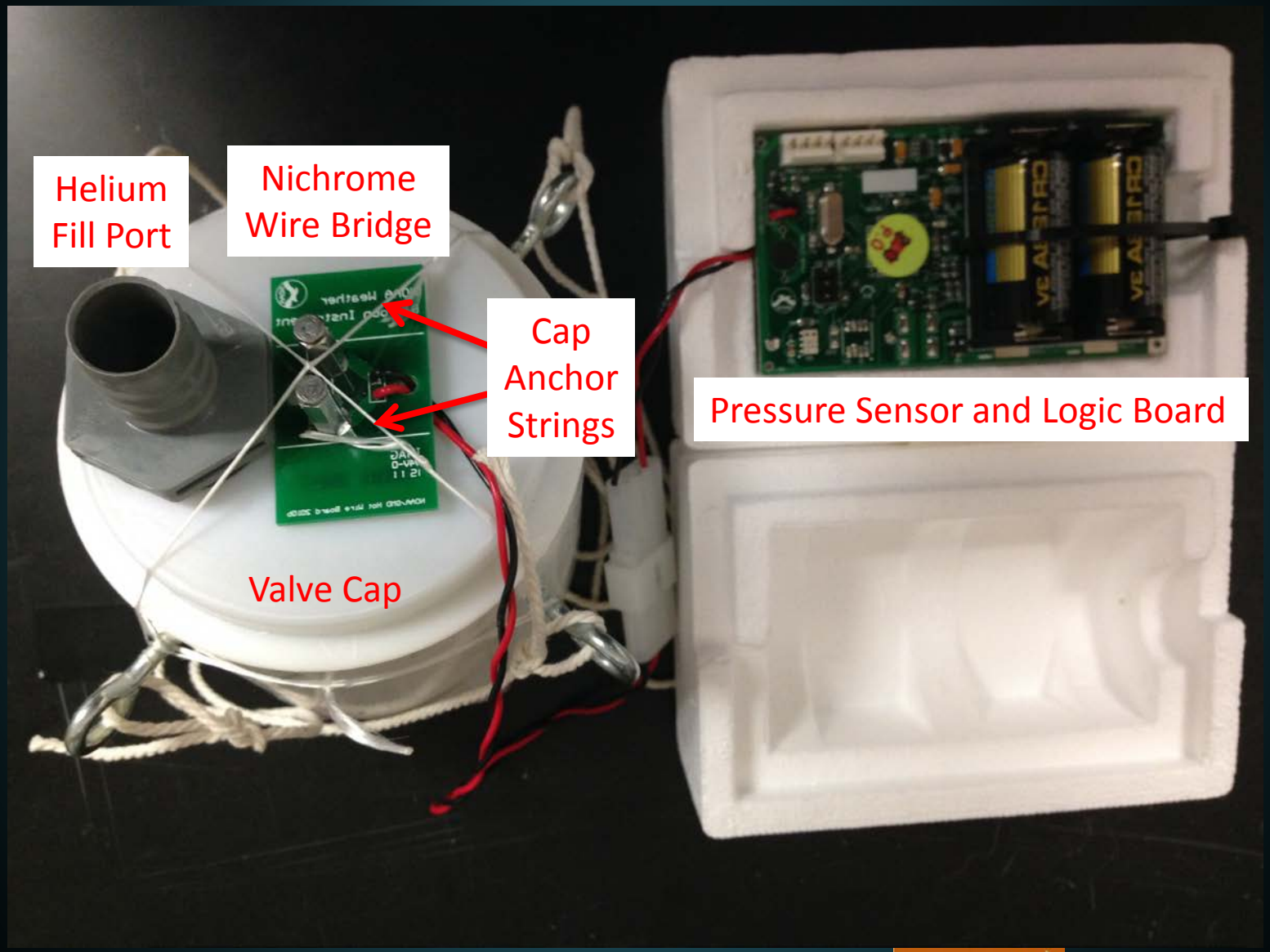
Automatic Valve System



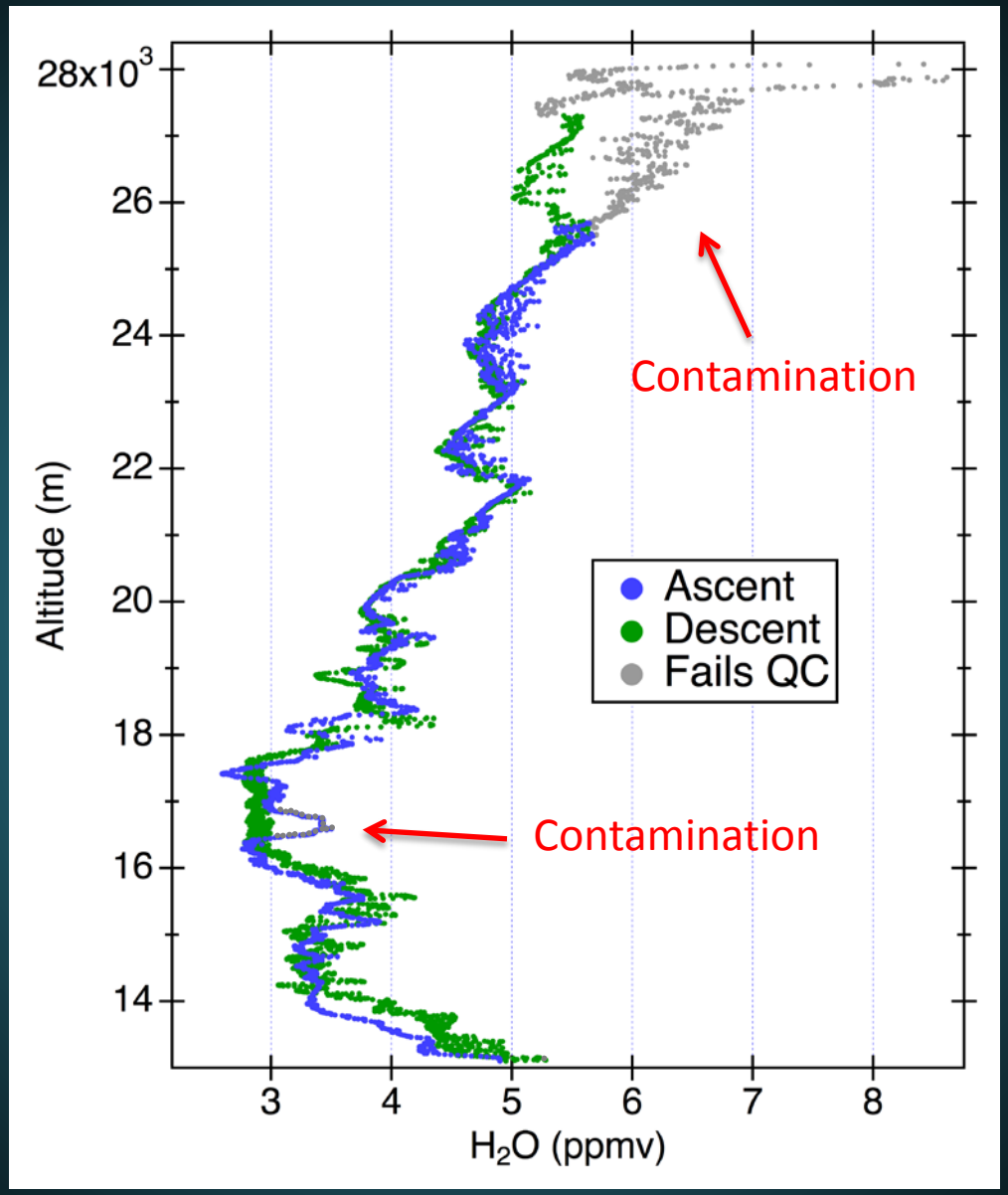
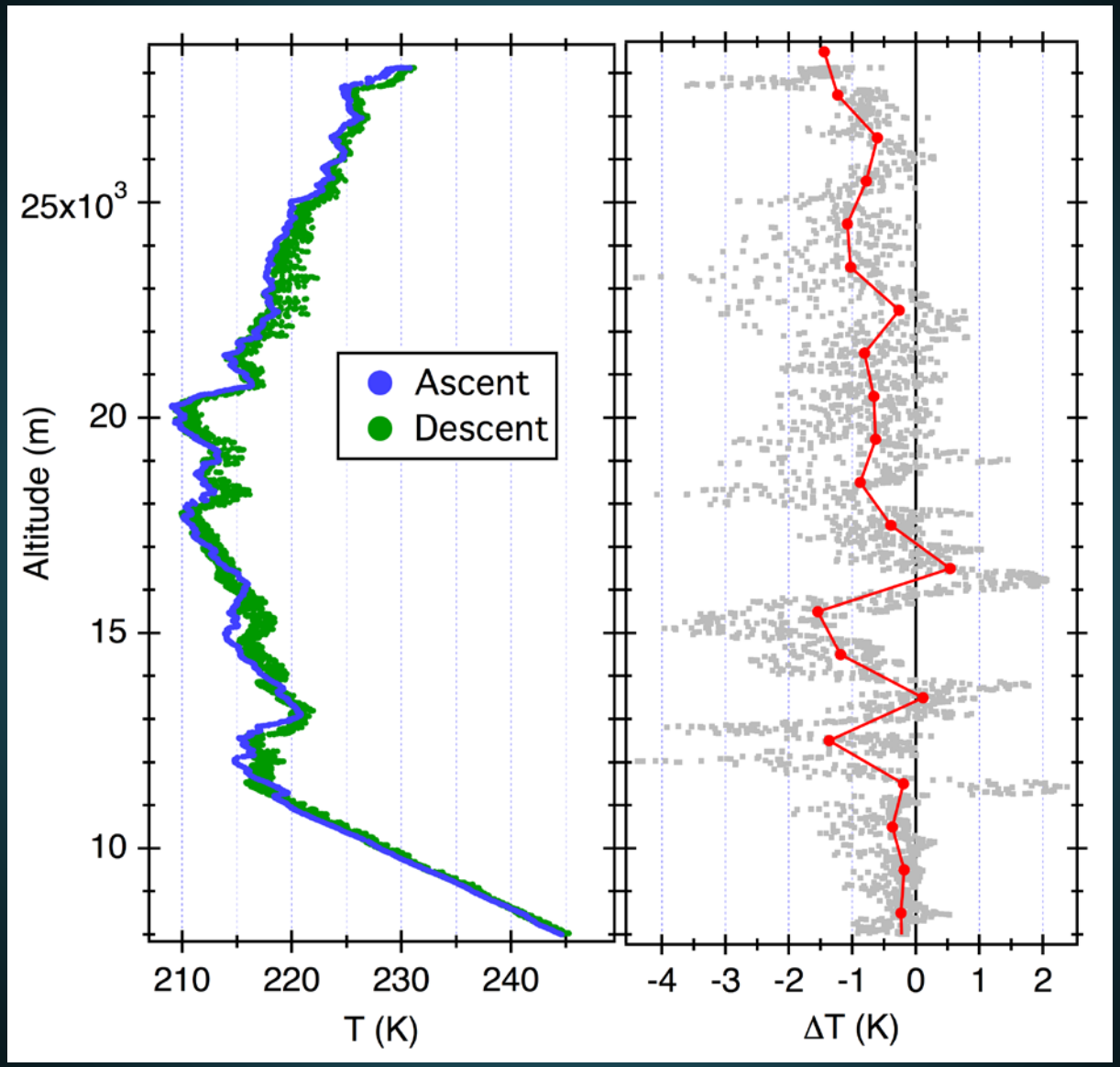
Set to open at 16 hPa (user configurable)
~80% success rate (premature bursts)

A – Valve and pressure sensor assembly
B – Parachute
C – String un-winder (52 m)
D – Instrument payload

Valve and Pressure Sensor



NOAA FPH – Ascent vs Descent WV Profiles



InterMet Radiosonde – Temperature Bias