

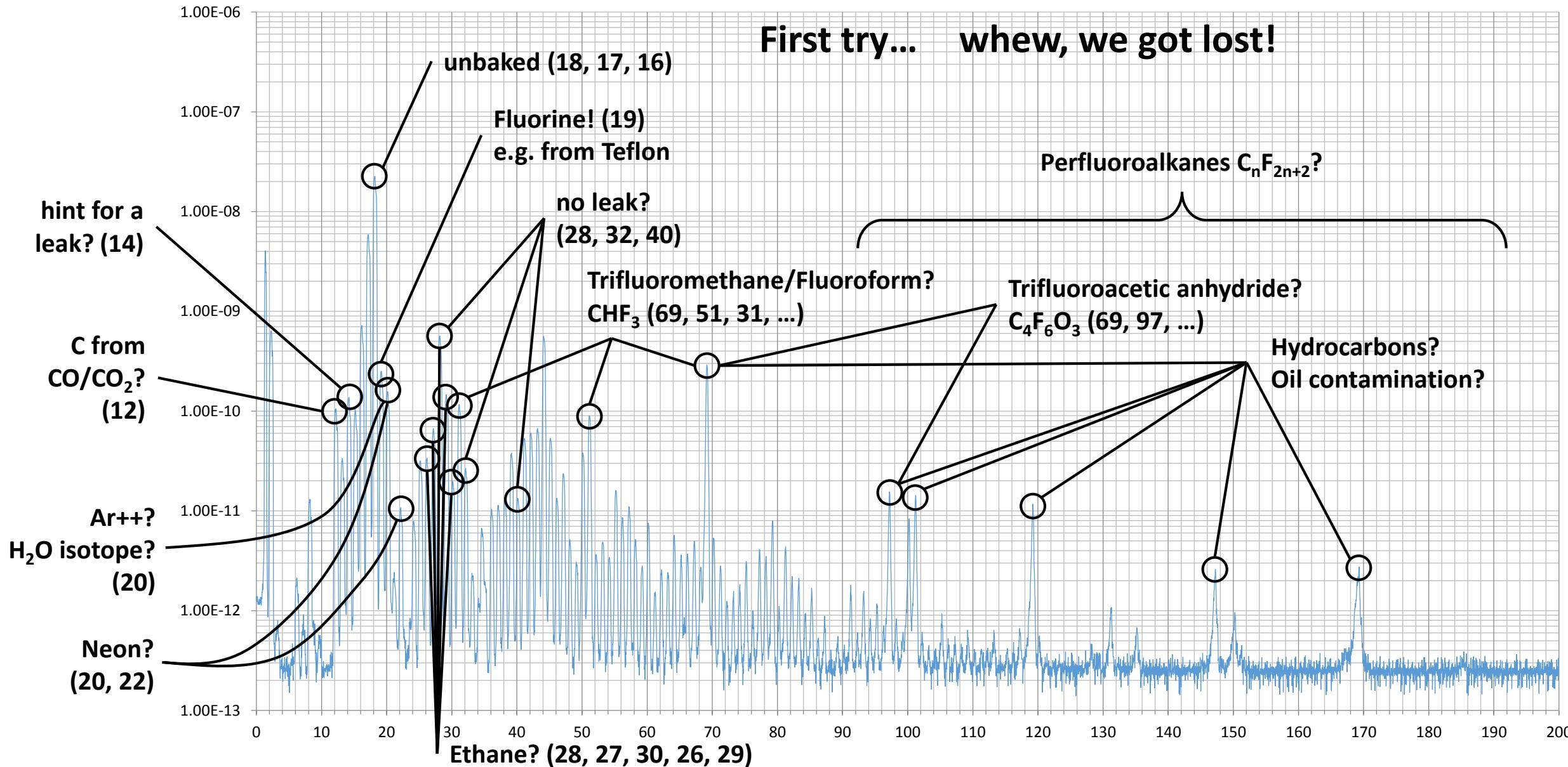
Identify composition of residual gas spectra

What are the problems with those spectra

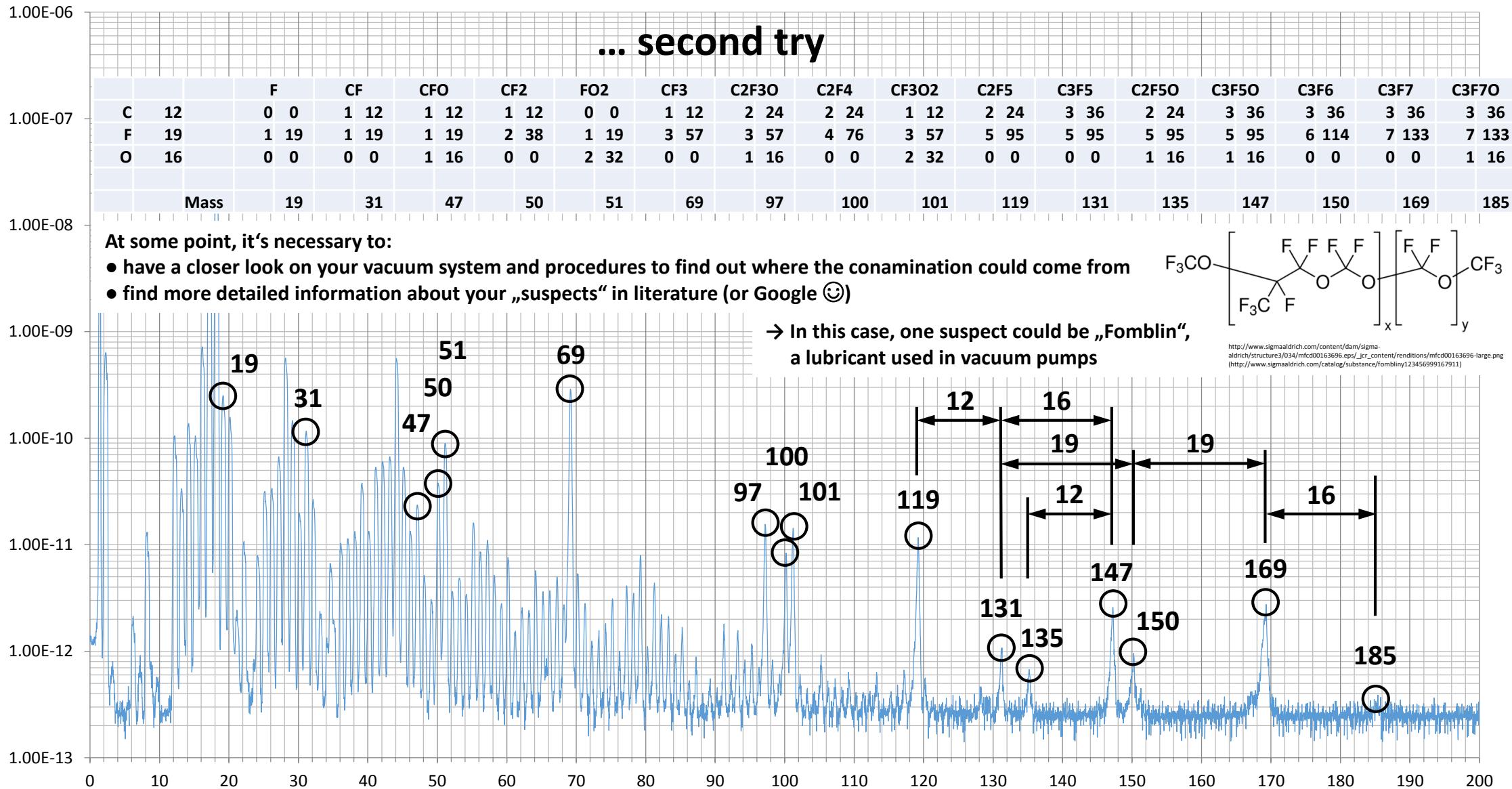
Problems

Case 1

First try... whew, we got lost!



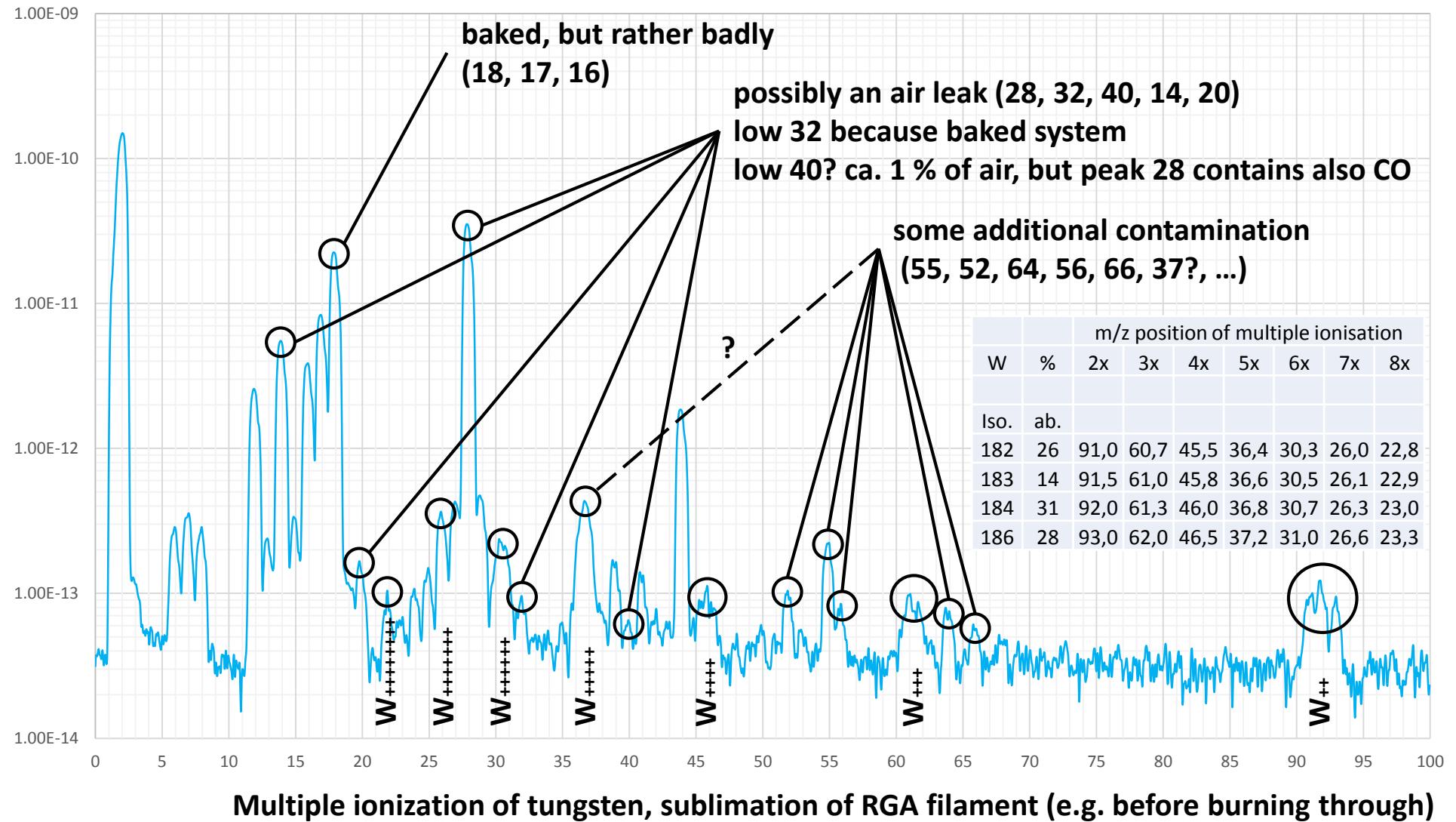
Case 1



Problems

Residual gas spectrum on a small test setup

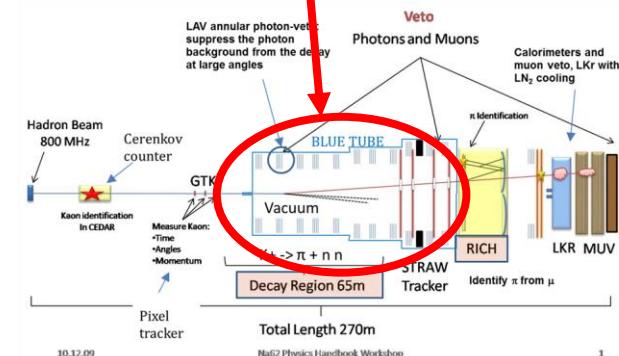
Case 2



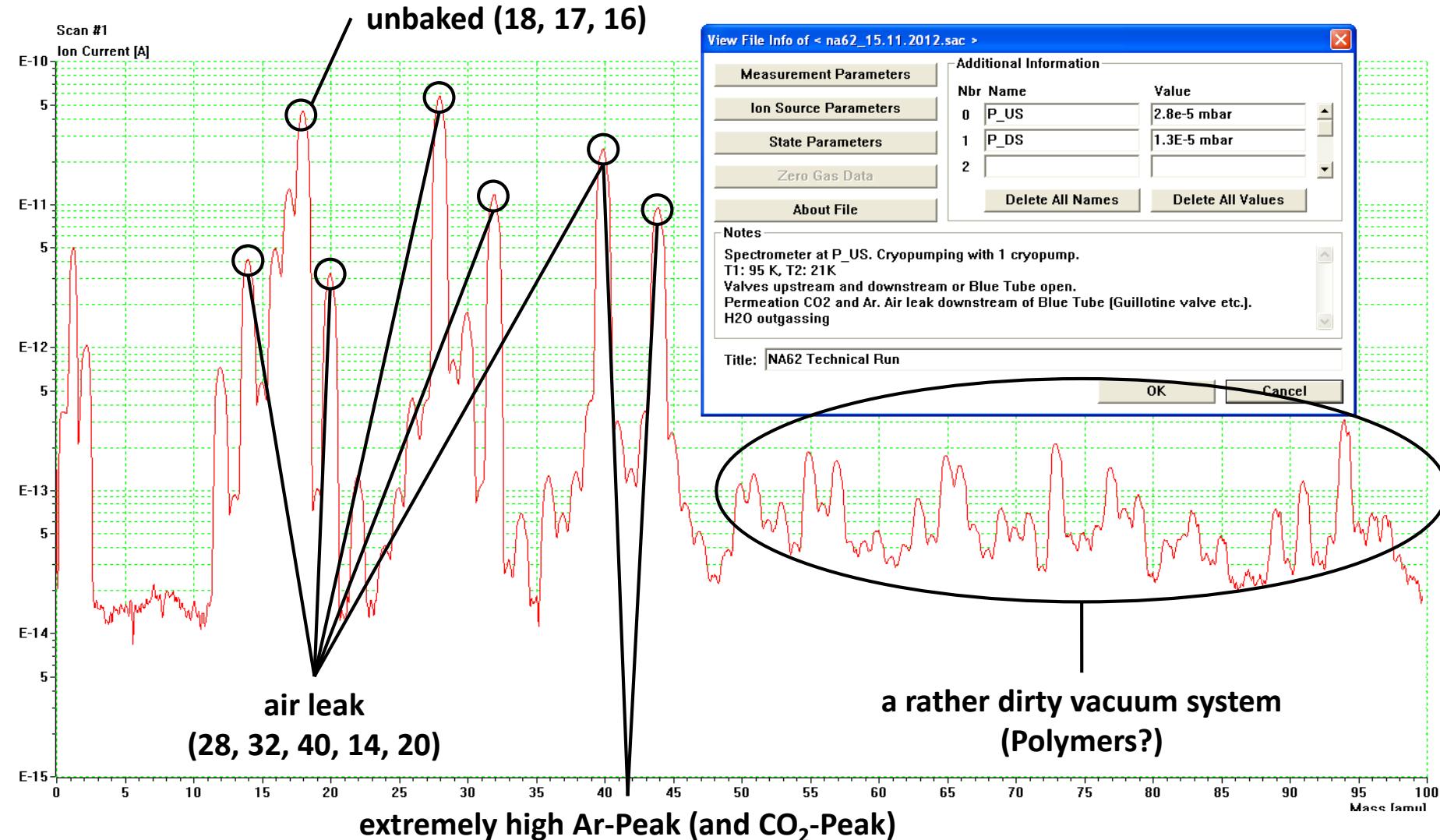
Problems

NA62 experiment at CERN

Residual gas spectrum in decay tube
Length > 100 m. Detectors inside
vacuum



Measured Spectrum NA62 (16.11.2012)



Case 3

Inside the vacuum system, there are very thin-walled Mylar tubes (Polyester) containing Ar and CO₂. These gasses are permeating through the Mylar walls into the vacuum system.

Problems

AMS background

Case 4

Tests after assembling at $T < 2\text{ K}$

Alpha Magnetic Spectrometer

Designed by NASA

Tested at CERN

Sent to ISS



<https://upload.wikimedia.org/wikipedia/commons/0/00/AMS01Geneva.jpg>
https://en.wikipedia.org/wiki/Alpha_Magnetic_Spectrometer

