

Status Report

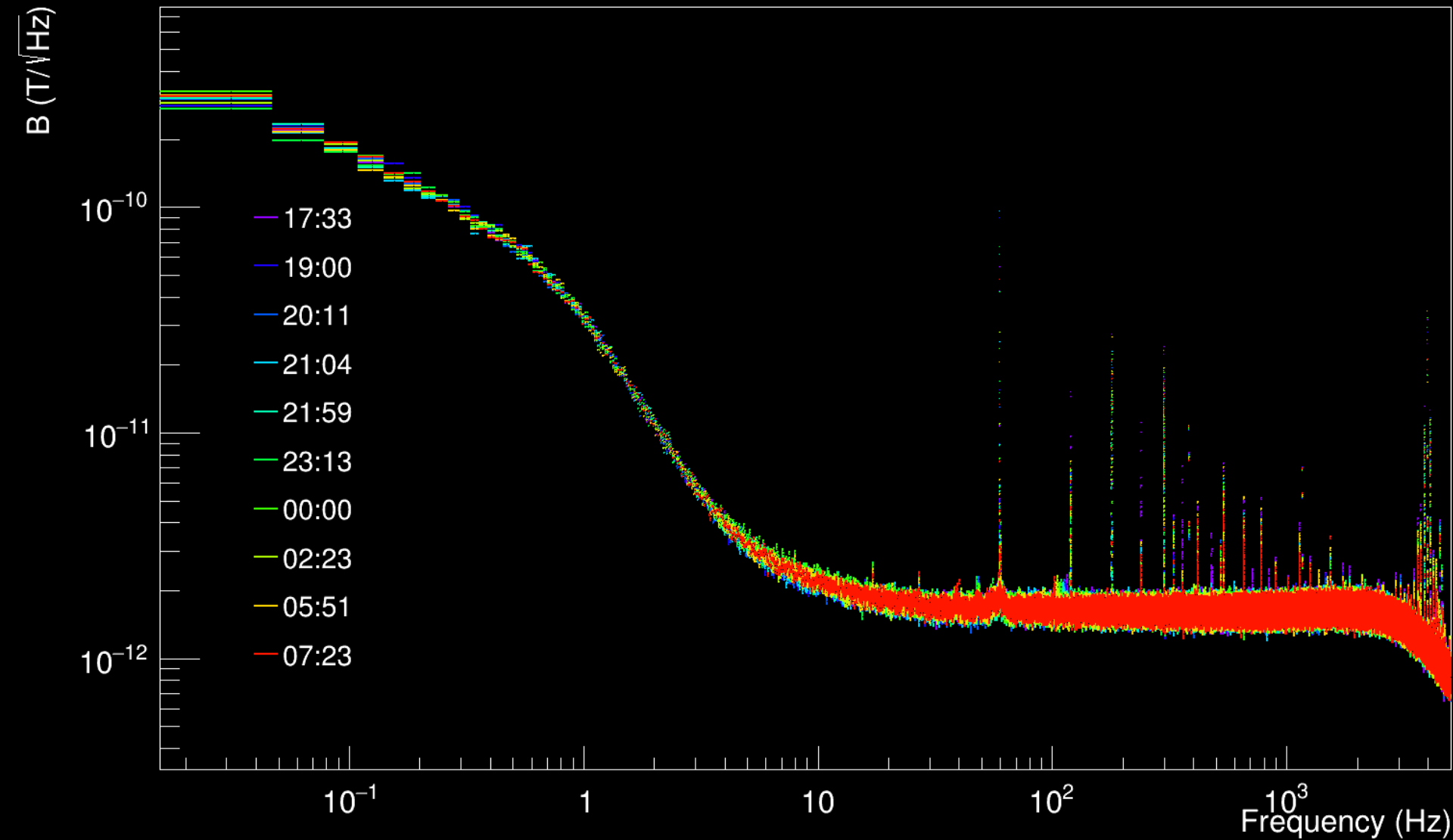
2019/2/19

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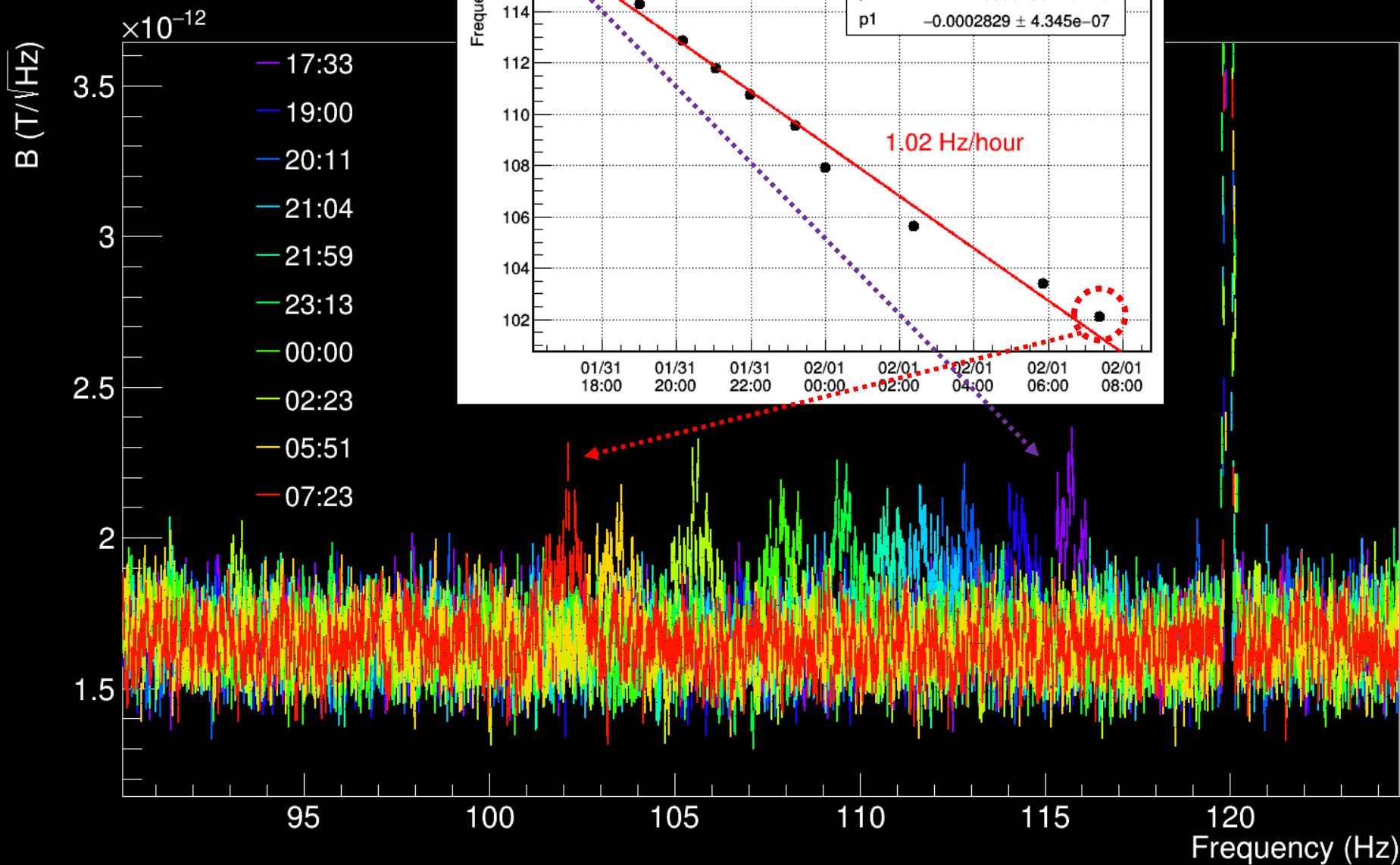
Today's Reports

- ❑ Magnetic Field in/around EXC
 - Summary Page in Wiki ([link](#))
 - Coherence between Channels ([link](#))
 - Between B_x & B_y , B_y & B_z , B_z & B_x in Mag①
 - Between Mag① & Mag②
 - Between Mag① & Microphone
 - Spectrum Analysis
 - Floor Level
 - Peak Fitting (const. + Gaussian / const. + Lorentzian)
 - Automatic Peak Search (ongoing)
 - Long Term Behavior ([link](#))
 - From next page
 - Femtet Simulation ([link](#))
- ❑ My next issue : Accelerometer
 - First action : 2/21(Thu.) ?
- ❑ Plan of Hanford trip

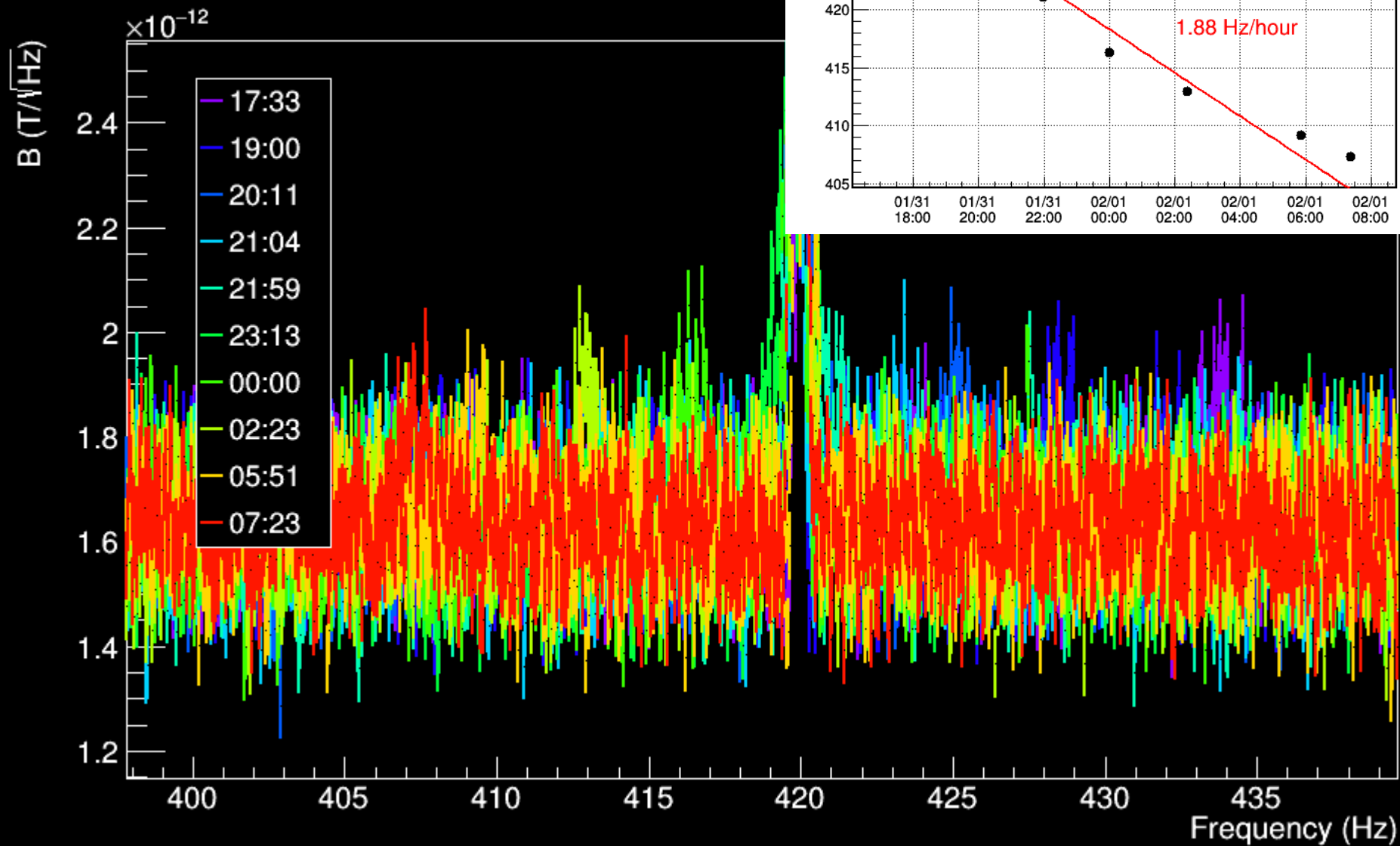
Long Term Behavior (1/31 – 2/1)



~ 110 Hz



~420 Hz



Interpretation of these peaks

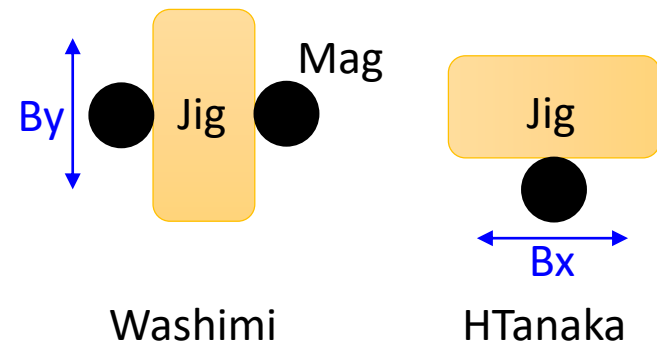
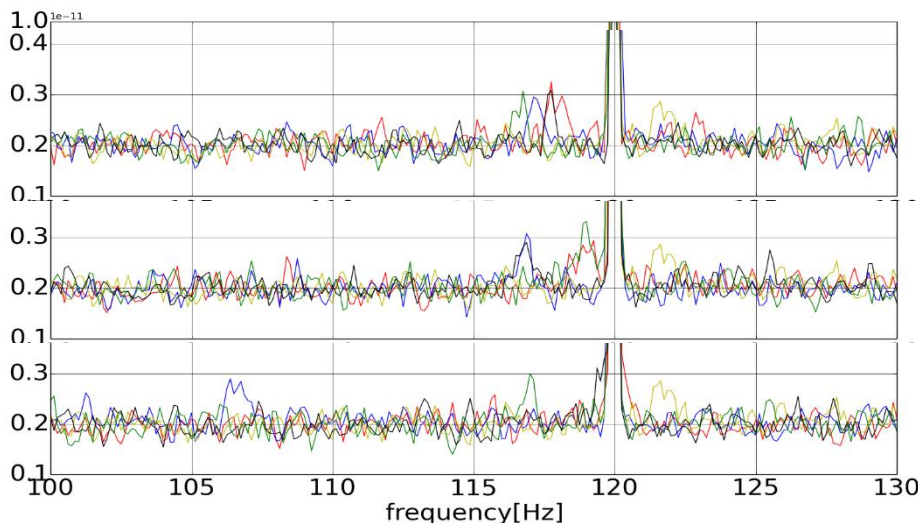
- ① External source (motor? electric device? Water flow?)
- ② Mechanical resonance of WAV
- ③ Mechanical resonance of the Jig + Magnetic Field from WAV
- ④ Mechanical resonance of the Jig + Terrestrial magnetism

Comparing to H.Tanaka's measurement...

- No position dependence
- Inconsistency of the direction

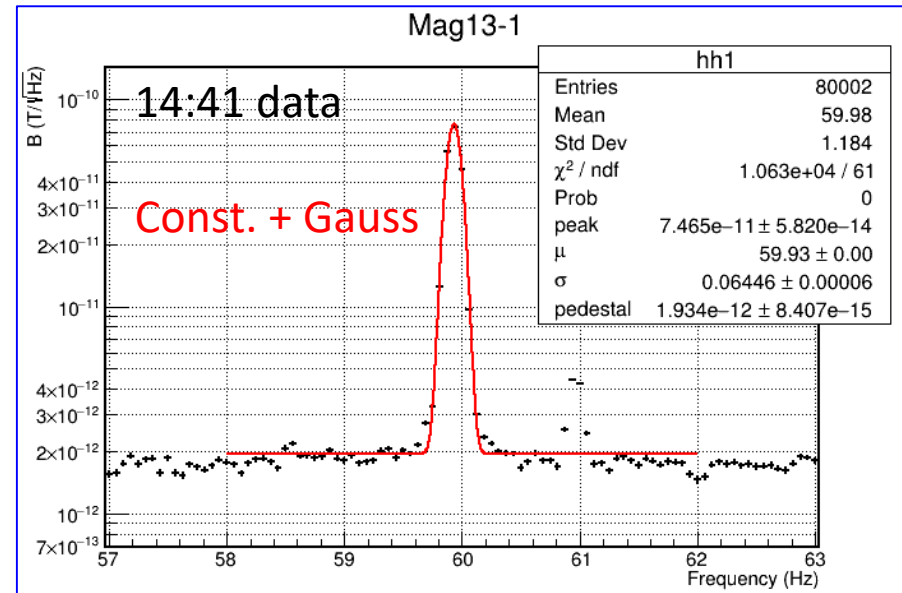
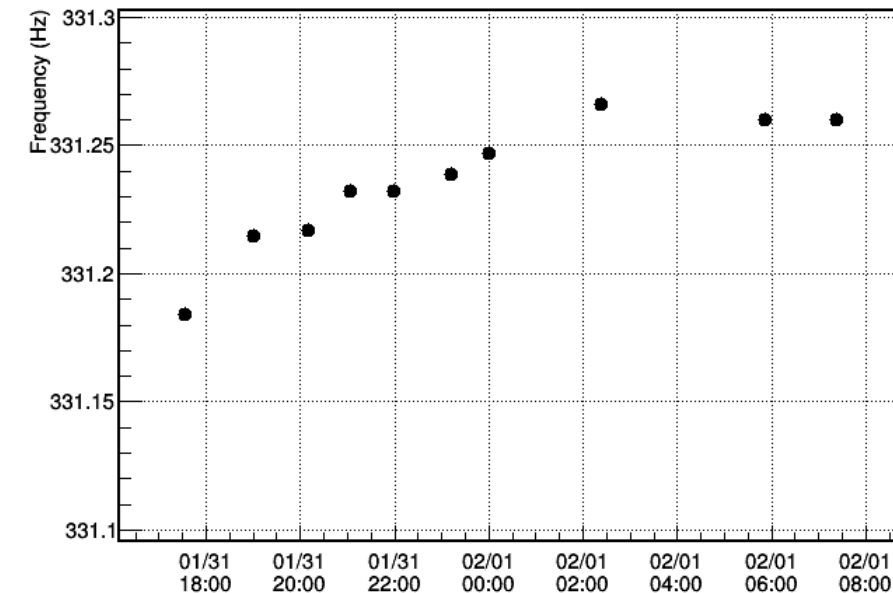
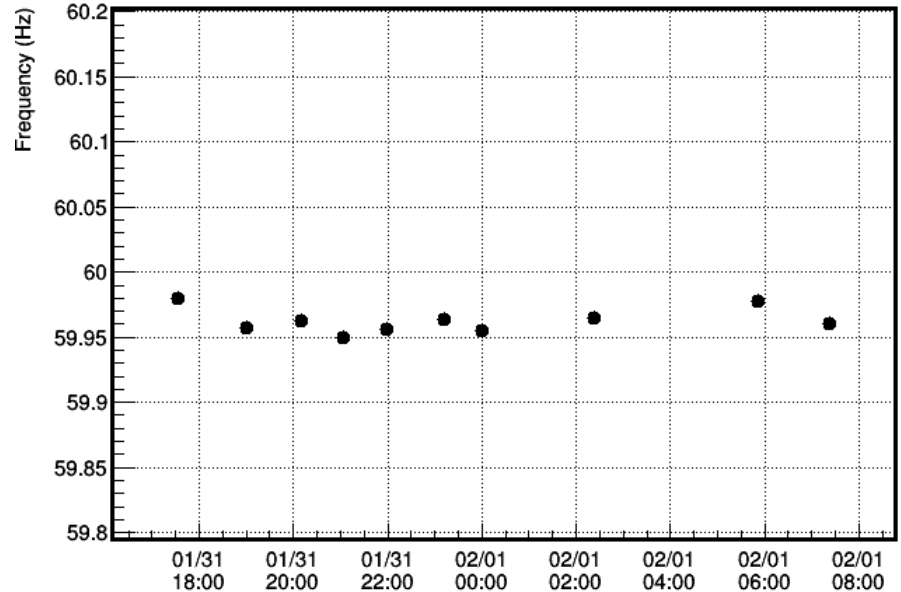
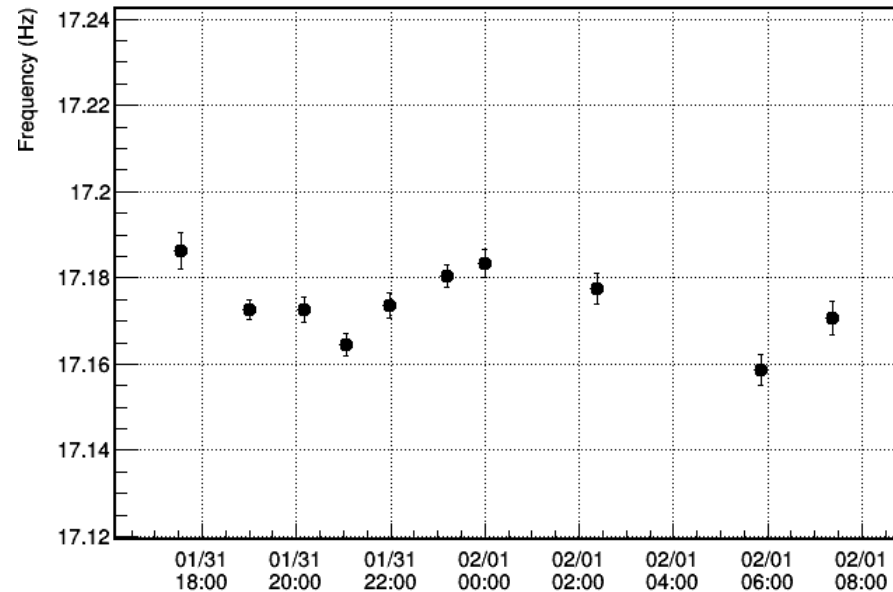


④ is the most possible case.
I will check it with accelerometers.



Other Peaks

$$\Delta f < 0.1 \text{ Hz}$$



Plan of Hanford trip

- Robert Schofield氏 (PEMという分野の創始者、Hanford、オレゴン大)とメールでコンタクトを取った。
 - 4月からのO3に向け、3月～4月の間にLivingstonとHanfordで1週間づつPEM injectionを行う
 - 日程はまだ決定していないため、運が良ければinjectionに参加させてもらえるが、運が悪ければRobertさんがHanfordにいない
 - RobertさんはLVC meetingにも行かないかもしれない
- 年度末で予算・手続きがタイトなので、今回の出張はfixし、PEM injectionについては4月以降に改めて検討する
 - 3/11 出国
 - 3/11, 12 Hanford見学
 - 3/13 移動日
 - 3/14, 15 NIST@Boulder (Cal meeting)
 - 3/16 帰国