

Feedback Exercise

(解答)

フィオナ・ニール
ニール コンサルティング

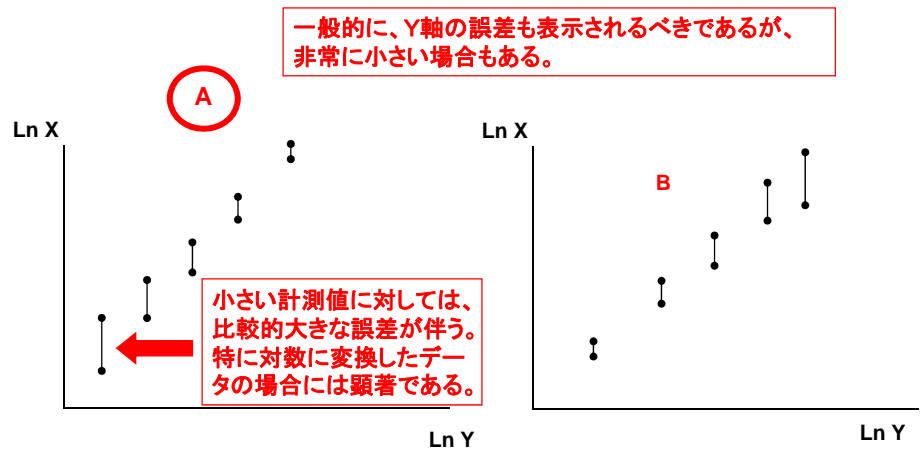


Feedback

- 問題の解答
- フィードバックの解釈

Data Level (1)

- Data with uncertainties are plotted based on laboratory measurements – which curve looks like errors have been handled correctly?



Data level (2)

- If a measured value of 1353.1456 has an associated uncertainty of 10%, how should it be reported? **1350 +- 140**
- If this measured value must be corrected for a background of 2 with an uncertainty of 3%, how should it be reported? **1350 +- 140**
- If this measured value must be corrected for a background of 1340 with an uncertainty of 10%, how should it be reported? **検出限界未満**

Equations

- Quick scans of equations can often reveal quality control problems: for the following

$A = B \log (C/D)$, with

$A - \text{kg.m.s}^{-2}$

$B - \text{g.cm.s}^{-2}$

$C - \text{g.s}^{-1}$

$D - \text{m.s}^{-1}$

$\text{Log}(C/D) \Rightarrow \log(\text{g.m}^{-1})$

What indicates an error in the equation?

What suggests poor QA and risks introducing errors?

Equations

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6桁の誤差が入りこむ
リスク大

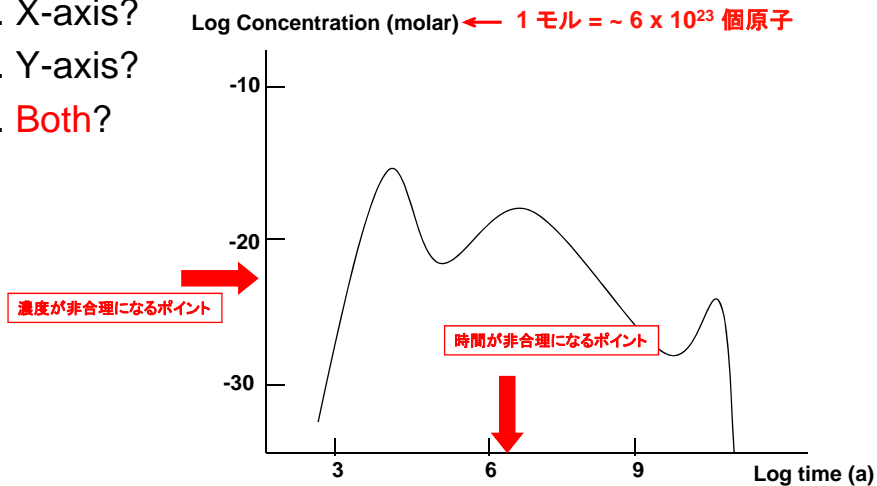
What indicates an error in the equation?

What suggests poor QA and risks introducing errors?

PA model level (1)

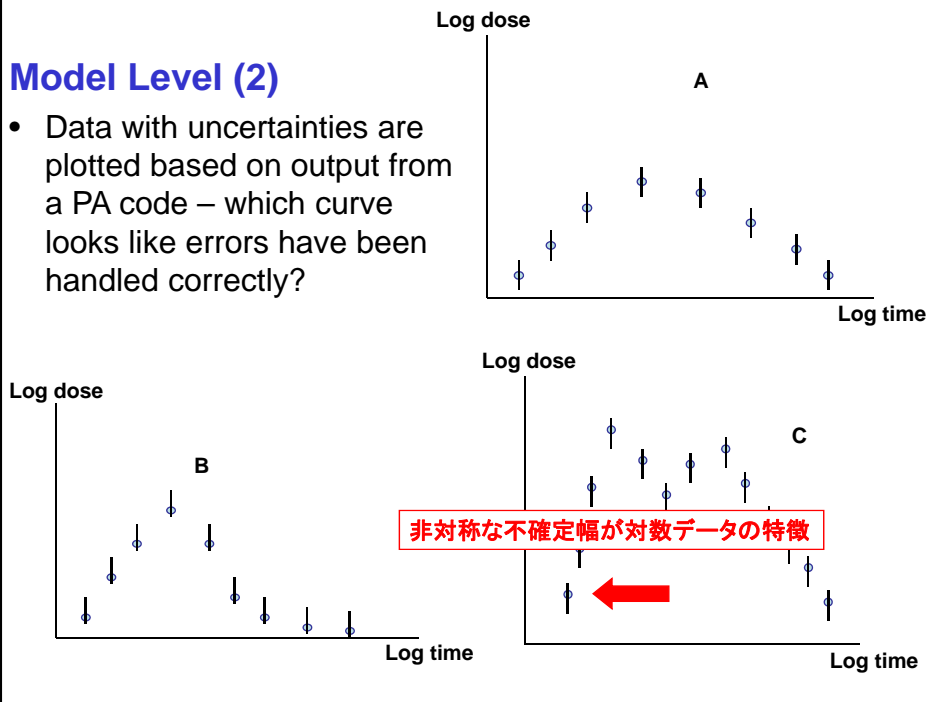
Where do there appear to be problems with this curve from a geosphere transport model?

- . X-axis?
- . Y-axis?
- . Both?



Model Level (2)

- Data with uncertainties are plotted based on output from a PA code – which curve looks like errors have been handled correctly?



System level (1)

- The regulatory guideline for expected scenarios includes a dose limit of 10 $\mu\text{Sv/a}$
- PA for a particular reference scenario yields a dose maximum of 9 $\mu\text{Sv/a}$ at 10⁵ years after closure
- Does this
 - Meet regulatory guidelines?
 - Not meet regulatory guidelines?
 - **Require more information to assess compliance?**

→ 誤差または不確定性評価なしには、このモデルのアウトプットが規制ガイドラインに合致しているかどうか判断することは不可能である。もしモデルやデータベースが明らかに保守的である場合には、これで合致していることを示すに十分であるかもしれない。

System level (2)

- The regulatory guideline for expected scenarios includes a dose limit of 10 $\mu\text{Sv/a}$
- PA for a particular reference scenario yields a dose maximum of 15 $\mu\text{Sv/a}$ at 10⁸ years after closure
- Does this
 - Meet regulatory guidelines?
 - Not meet regulatory guidelines?
 - **Require more information to assess compliance?**

→ 1億年先のモデル出力には (規制に関係なく) 意味がない。モデルの仮定が有効である期間 (100万年程度) 内でのみ、数値は議論することが可能。