

External magnetometers probes for global magnetic fields

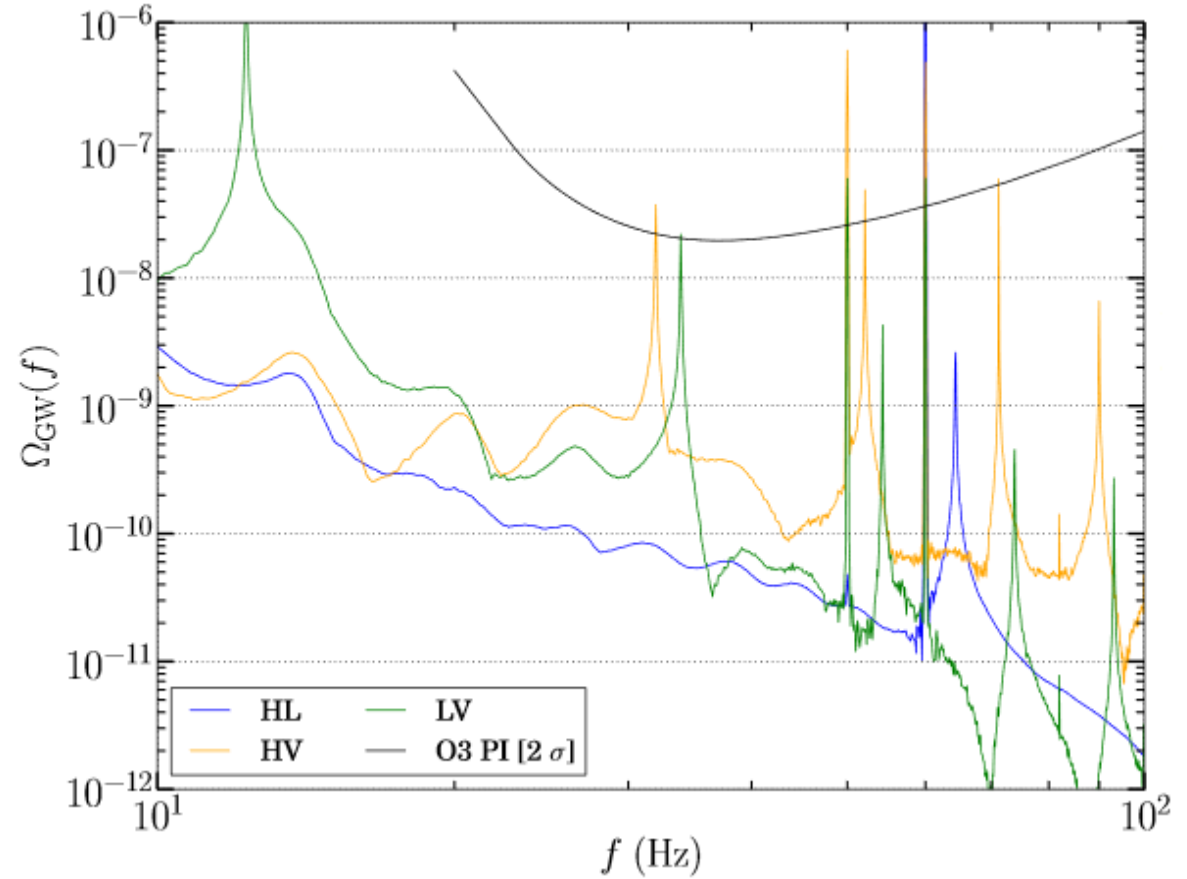
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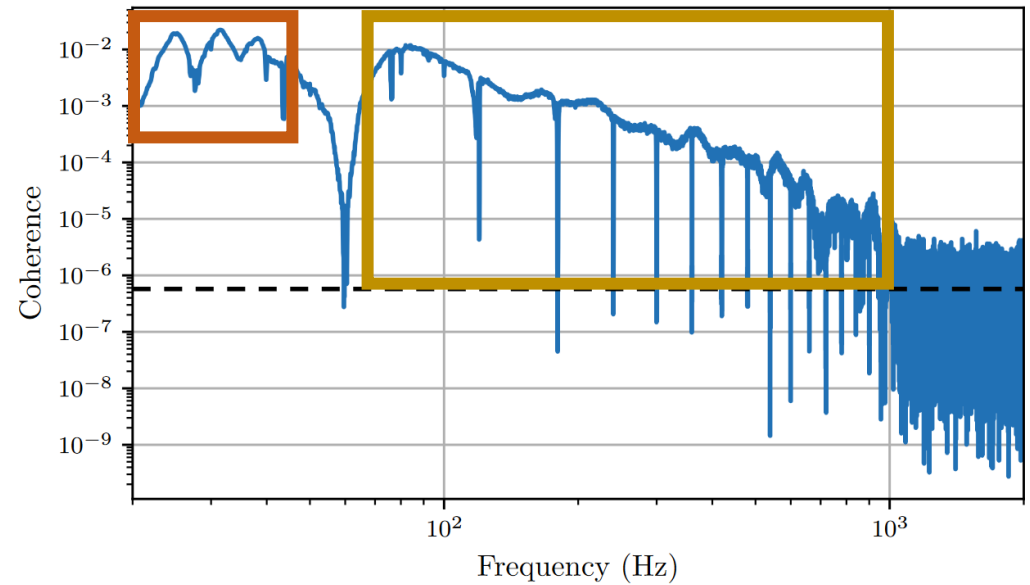
Why?

- Global magnetic correlations can fake a Stochastic GW signal



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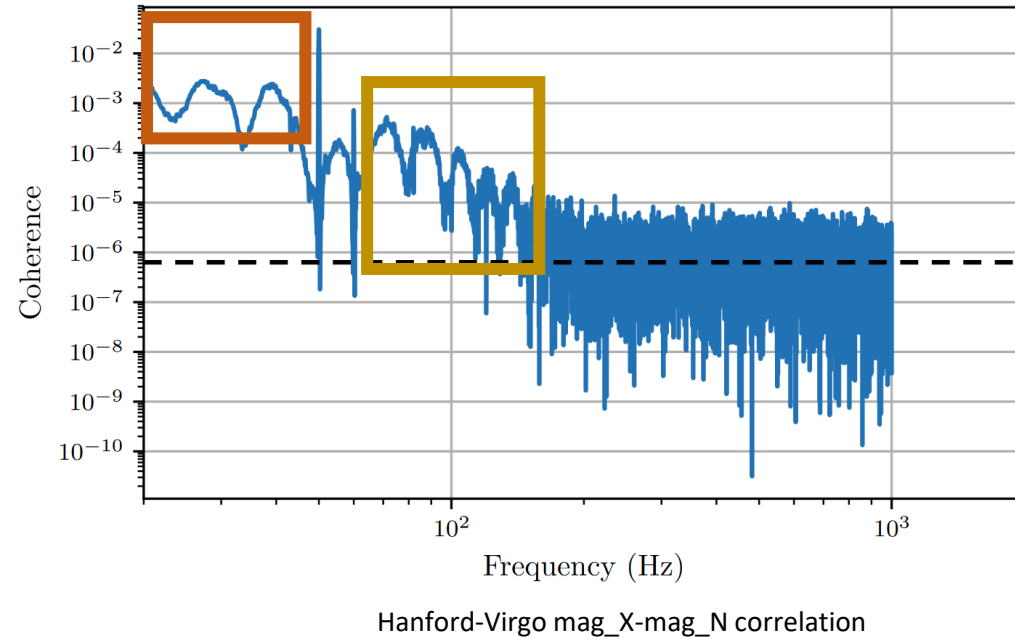
- Source: lightnings
- 2 types:
 - Schumann resonances
 - 'Direct coherence' of lightnings



Hanford-Livingston mag_X-mag_X correlation

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Why?

- Future - O4
 - KAGRA might be included in stochastic analysis (depending on sensitivity)
 - Measurement of magnetic background is critical & necessary in this case
 - Global magnetic studies to improve our understanding, modelling, ...

Requirements

- Low noise magnetometers (NS & EW or X & Y, ...)
- Quiet location:
 - Away from equipment, ...
 - Priority: 2 below ground to give an as realistic as possible magnetic background measurement
 - Ideally: 4 magnetometers – 2 above ground & 2 below ground
 - Enable us to understand impact of underground facilities

Additional footnote

- Another requirement for the Stochastic group:
 - Magnetic injection (preferably weekly & broadband)