

# Detector Characterization

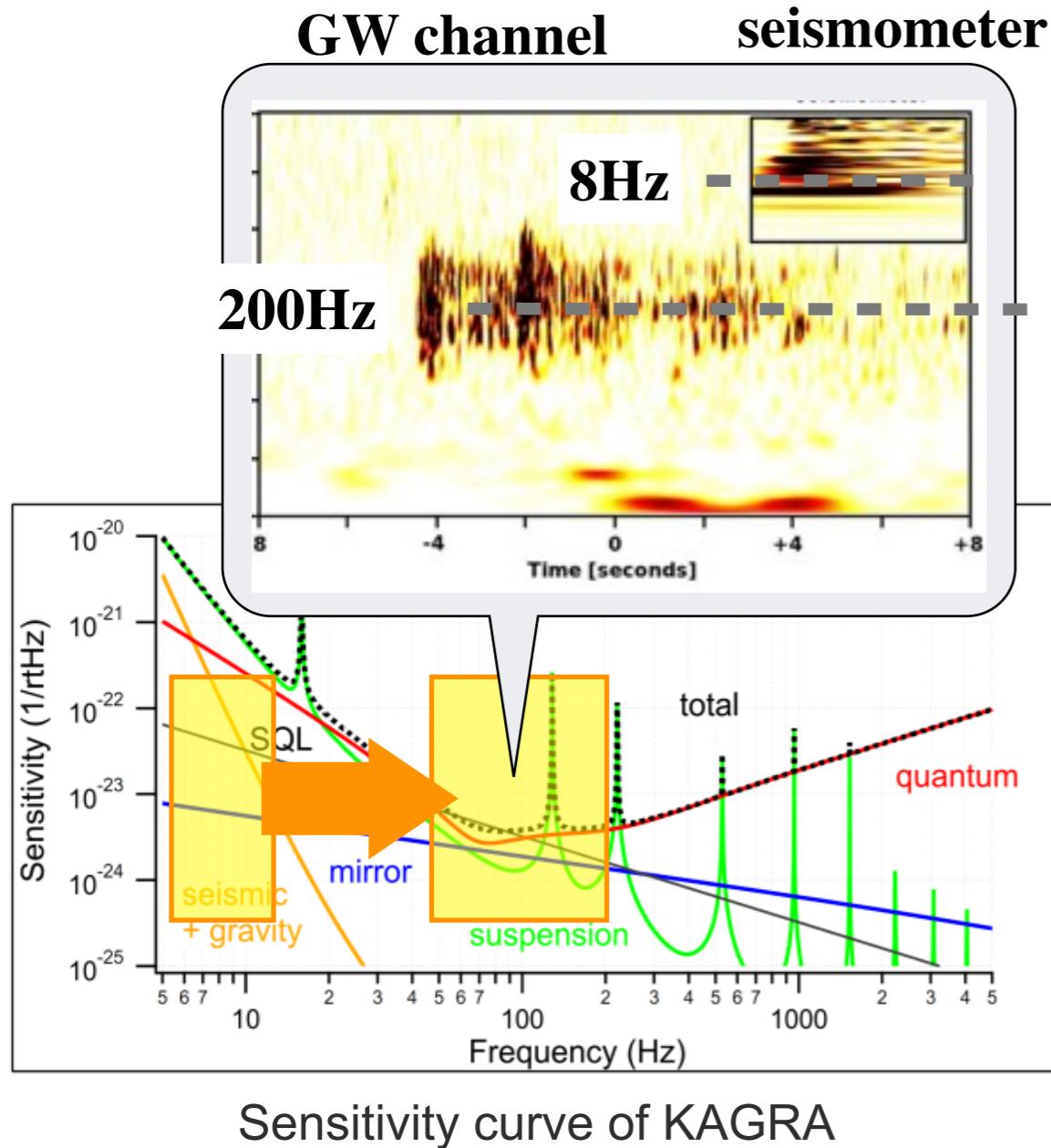
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Purpose : System to reach the 6 sigma (discovery)

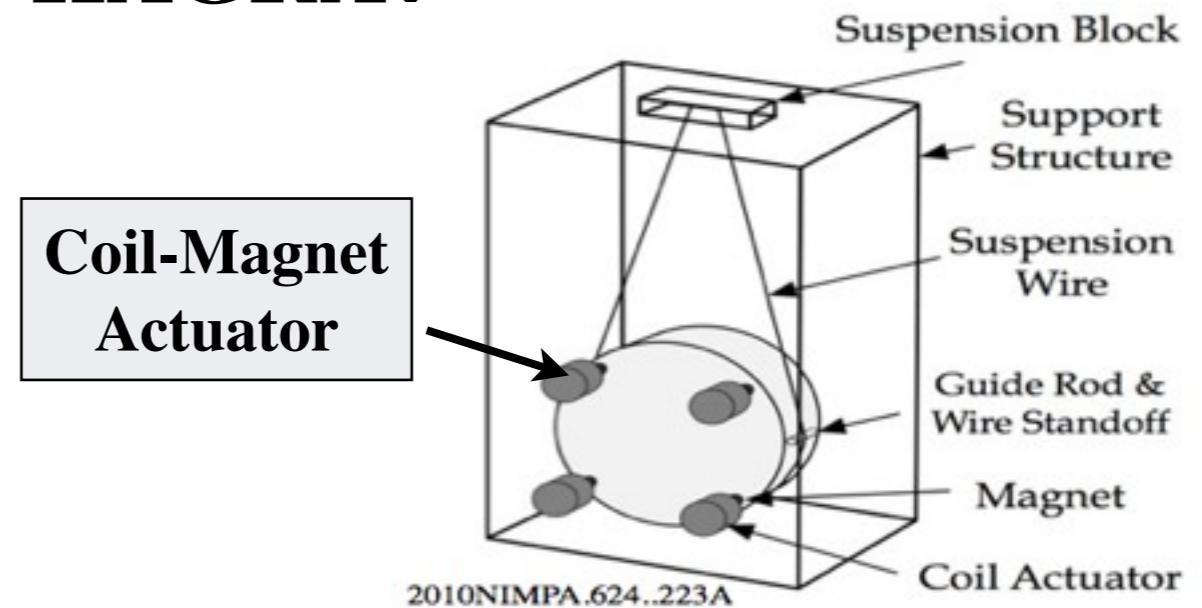
- **Stable Observation :**  
Developing diagnostics system of KAGRA telescope  
using ~10000 environmental, instrumental sensors
- **High-Quality Science :**  
Developing monitoring system of data quality
- **Veto Analysis :**  
Developing methods for reducing false GW events  
through noise characterization

# Noise Characterization

What about Seismic Up-Conversion Noise ?

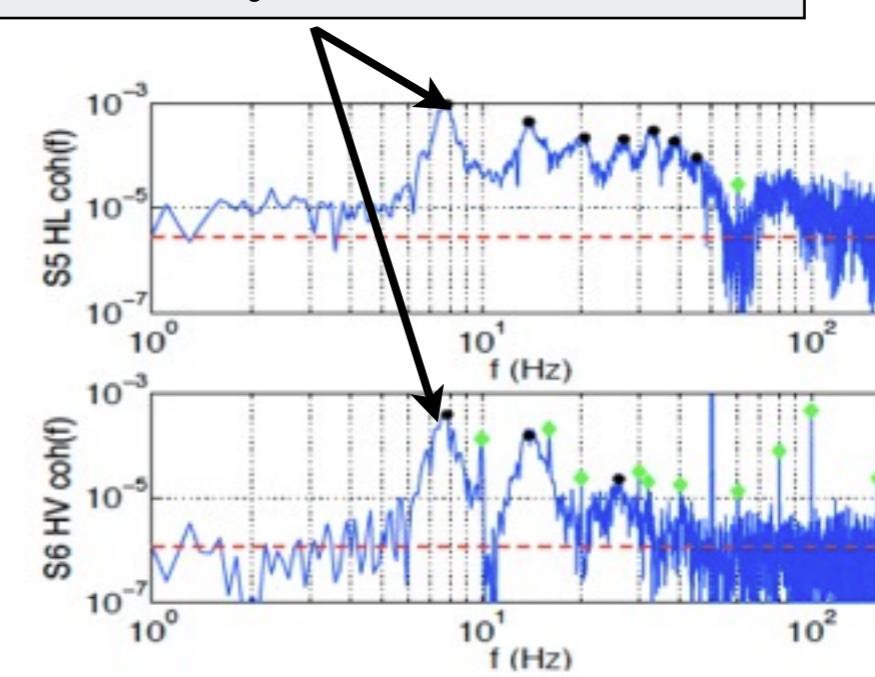


How magnetic field affects KAGRA?

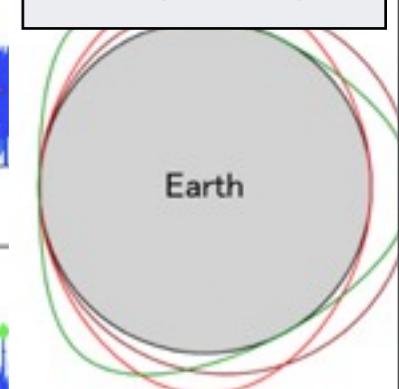


Coil-Magnet  
Actuator

Globally correlated noise



Schumann  
resonance

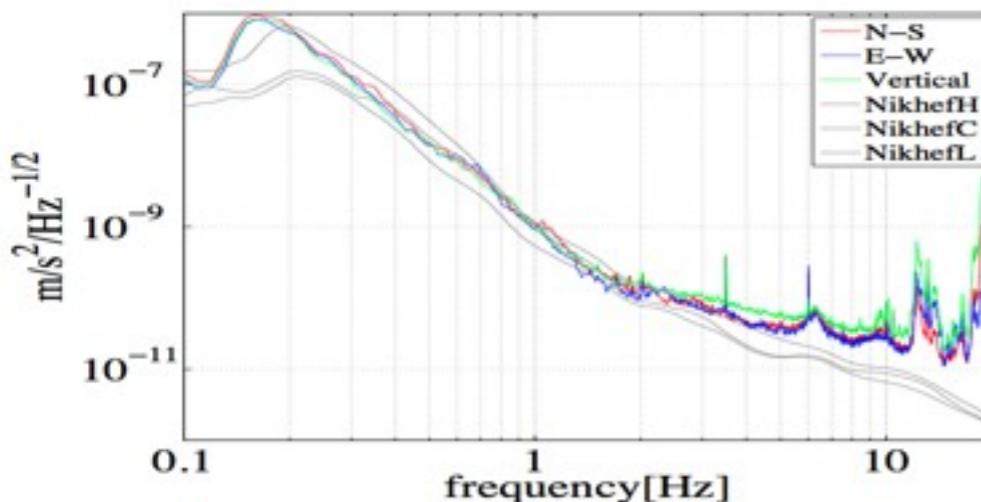


# Location of the measurement

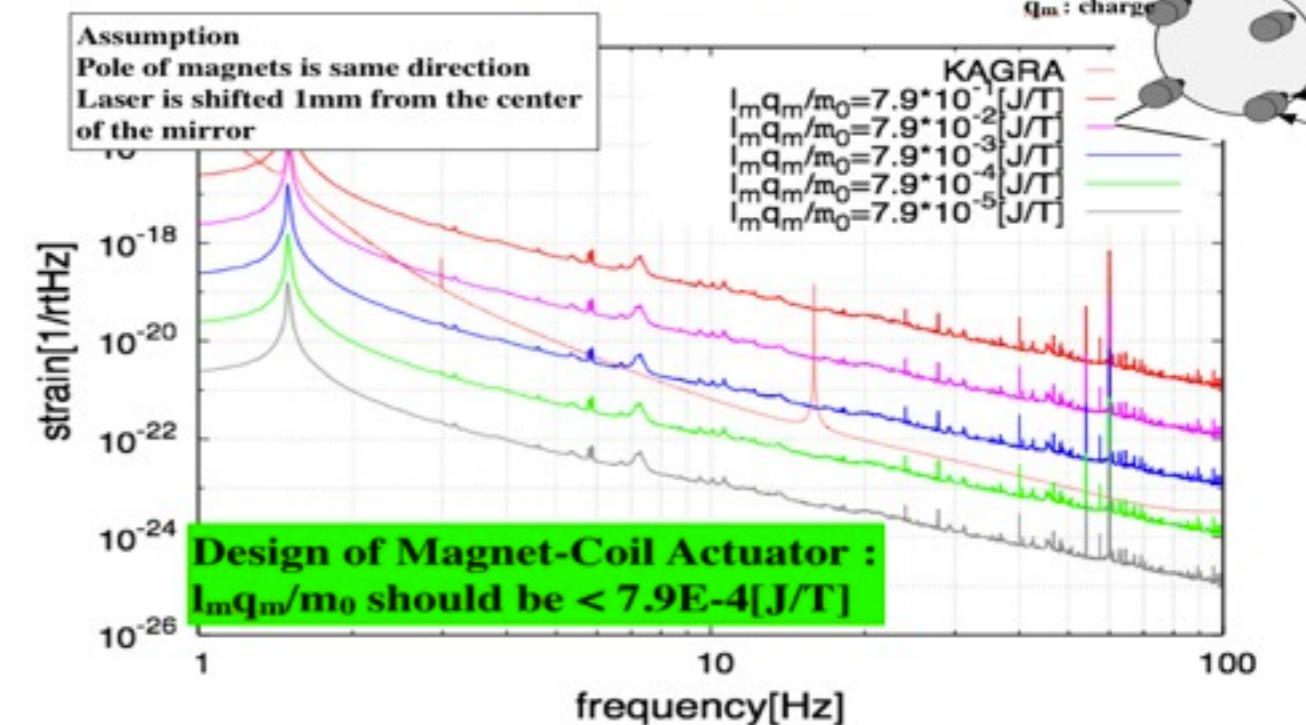


# Measurement at the KAGRA site

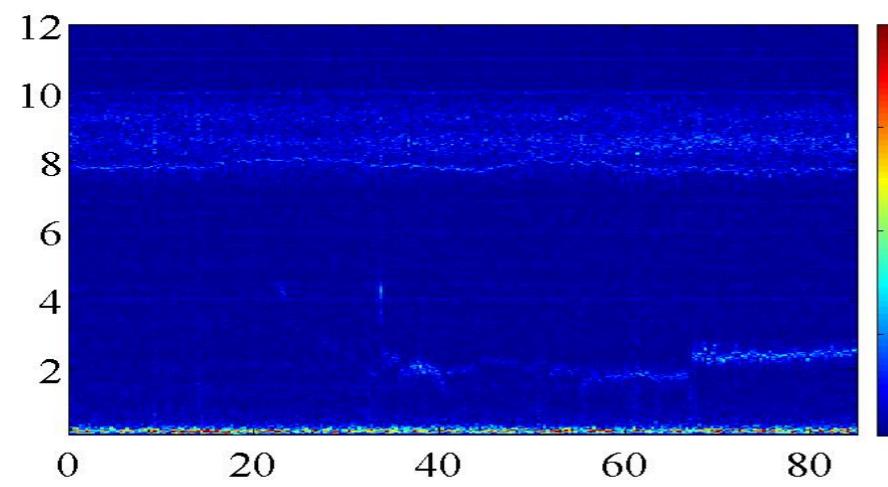
Seismic noise : < 2Hz  
consistent with CLIO  
high frequency under investigation



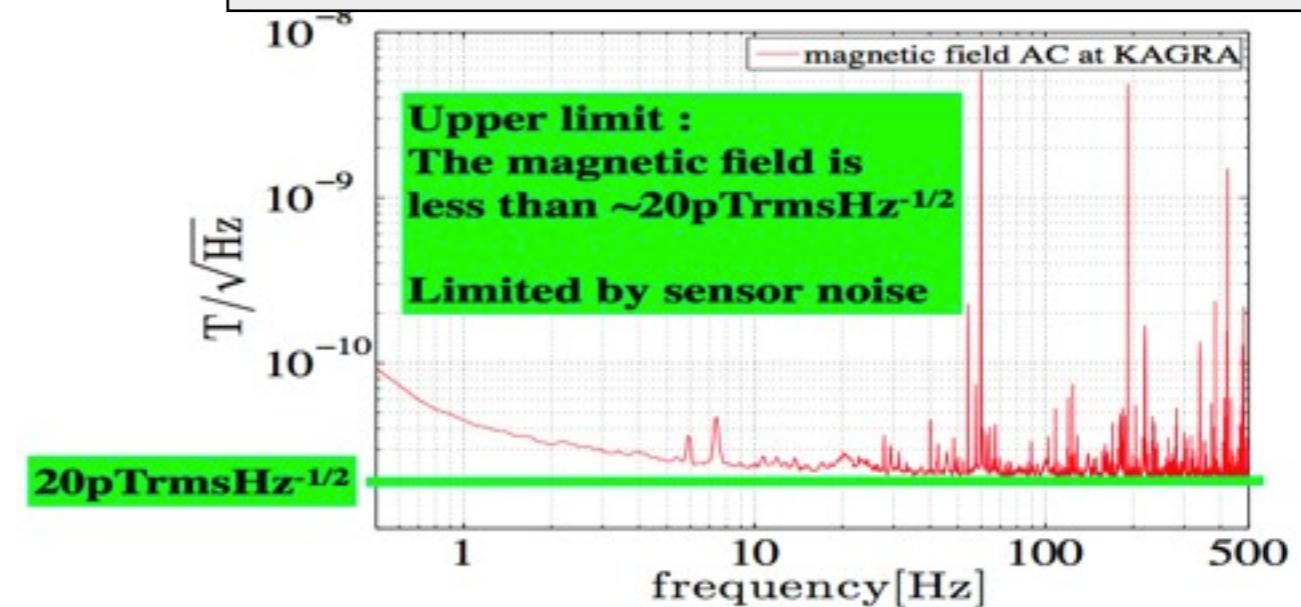
magnetic field : Requirement of  
Coil-magnet actuator



Stationarity: not bad, but  
longer data needed



No strange magnetic sources



# On going DetChar projects

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## Primary Projects

- To maintain Diagnostics Test Tool(Hayama, Miyakawa)
- Detchar GUI (Yamamoto)
- Glitch Monitor (Hayama)
- Line Monitor (Itoh, Kokeyama)
- Gaussianity Monitor (Hayama)
- Noise Budget(Hayama, Miyakawa)
- Health Monitor
- Data base
- Quality flag(Hayama, Tasyumi)

## Special Projects

- Globally correlated noise (Nishizawa, Hayama, ...)
- Violin mode(Hayama,Sekiguchi,..)
- Multi-Channel Analysis (Hayama with Korea detchar, Mano)
- Detchar shift plan(Hayama)
- Newtonian Noise(Agatsuma)
- in progress
- in slowly progress

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