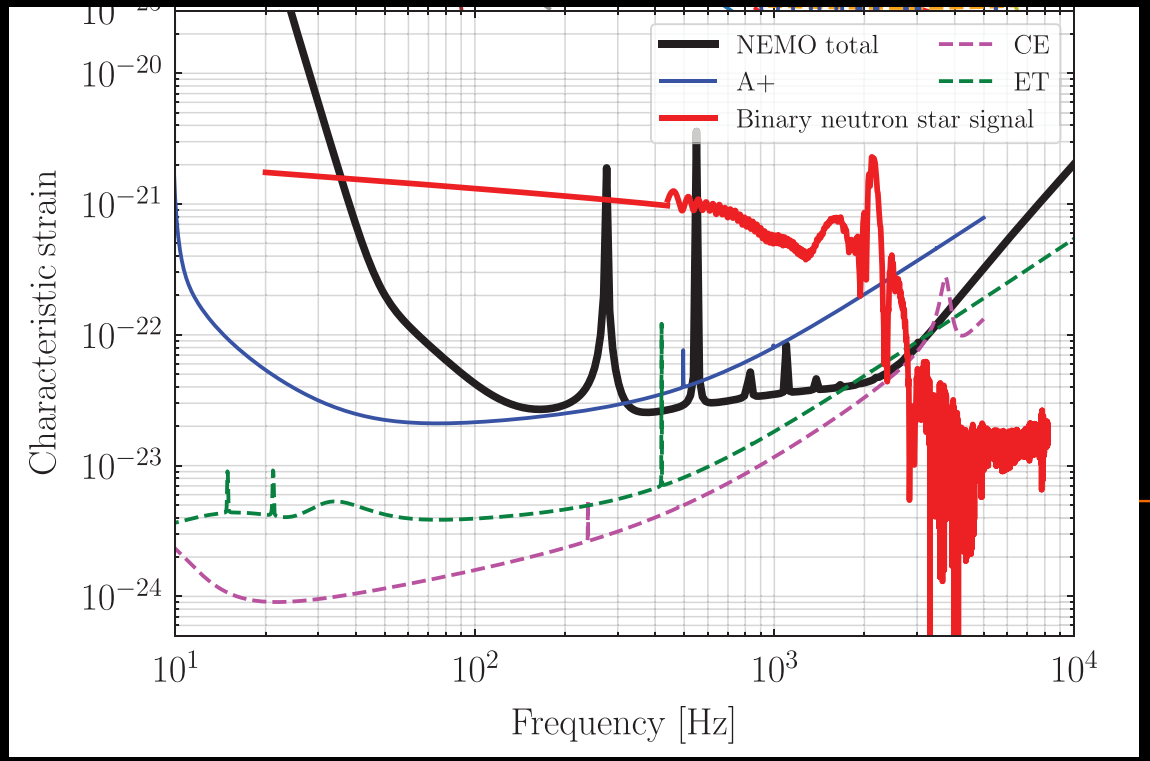

Australian Government
Australian Research Council
OzGrav
ARC Centre of Excellence for Gravitational Wave Discovery
Neutron star Extreme Matter Observatory – NEMO
Bram Slagmolen
Daniel Toyra, Carl Blair, David Ottaway, Rory Smith, Paul Lasky, Vaishali Adya, Daniel Brown, Eric Thrane, Kevin Kuns, Zhao Chunnong, David McClelland and CE-project members
The Australian National University
LIGO-G2102132
SWINBURNE UNIVERSITY OF TECHNOLOGY
Australian National University
MONASH University
THE UNIVERSITY of ADELAIDE
THE UNIVERSITY OF MELBOURNE
THE UNIVERSITY OF WESTERN AUSTRALIA
AAO
CSIRO

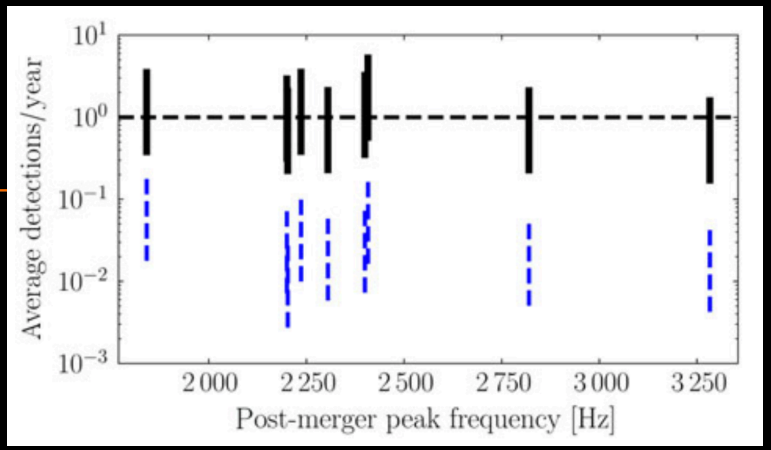
Neutron star Extreme Matter Observatory[1]

[1] Ackley, K., et al (2020), doi:10.1017/pasa.2020.39

- Focus on BNS mergers
  - Equation of State
  - Late in-spiral and post-merger signatures
- Optimal sensitivity 1-4 kHz range
  - Window comparable to 3G sensitivity
  - Frequency of peak sensitivity under study



- Limited to no low-frequency sensitivity
  - High bandwidth controls
  - Reduced cost
- Configuration similar to LIGO/VIRGO
  - Long signal recycling cavity
  - Alternative signal enhancement techniques
- Next gen 3G technology pathfinder
  - Use 3-4 km infrastructure
  - 2um/1.5um/1um under study
- NEMO pathfinder supported by Australian Astronomy Decadal plan.



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