Open Problems

• How well can we predict the spectral shape and temporal modulation of the galactic confusion noise from the resolved binaries?

• What happens if we lose a link or an arm?

• How well can model the instrument noise?
  • Possible additional components beyond acceleration and optical path noise (scattered light, tilt-length...)?
  • How white can we expect the acceleration and position noise to be?
  • Do we need an explicit signal nulling channel to confidently infer the noise?

• Could residuals from the global fit be mistaken for a stochastic signal?
  • How could we check to see if this was happening?
  • How large could the residual signal be?

• What is the best way to include stochastic background modeling in the global fit?
Roadmap

• Need to go beyond simple scoping-out style studies and try extracting stochastic backgrounds in an LDC Global Fit challenge

• Better understanding on the noise combinations that are constrained by signal insensitive channels

• Develop Bayesian Hierarchical Modeling from agnostic (e.g. spline) reconstructions provided by the Global Fit and specific models

• Include non-stationarities in the galactic confusions and instrument noise models

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