



# LIGO

## Gravitational Waves

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**Lake Louise Winter Institute**

*Barry Barish*

*Feb 23, 2000*



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## Gravitational Waves

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**Lake Louise Winter Institute**

***Barry Barish***

***Feb 24, 2000***



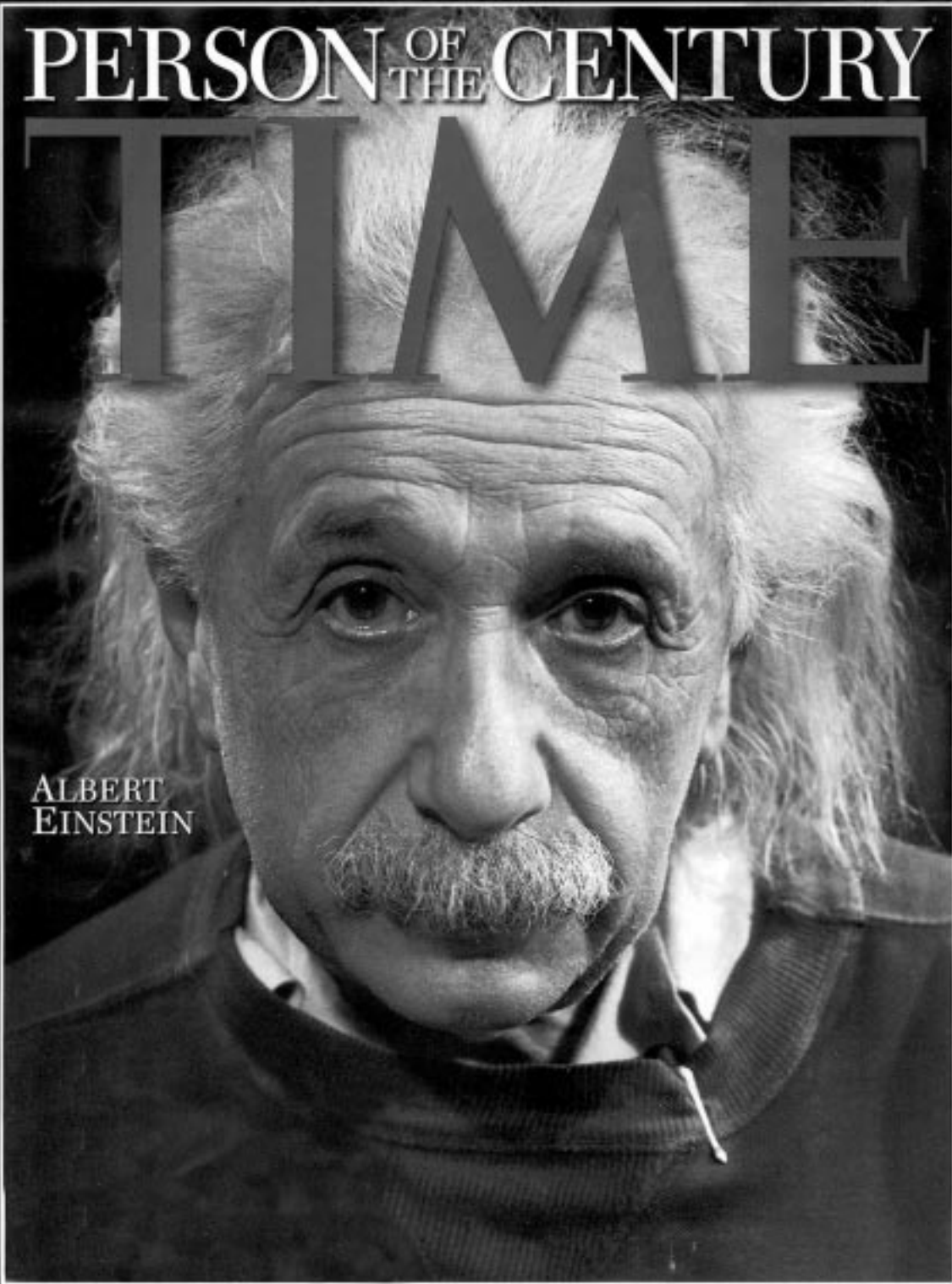
DECEMBER 31, 1999 \$4.95

www.itsme.com

# PERSON OF THE CENTURY

# TIME

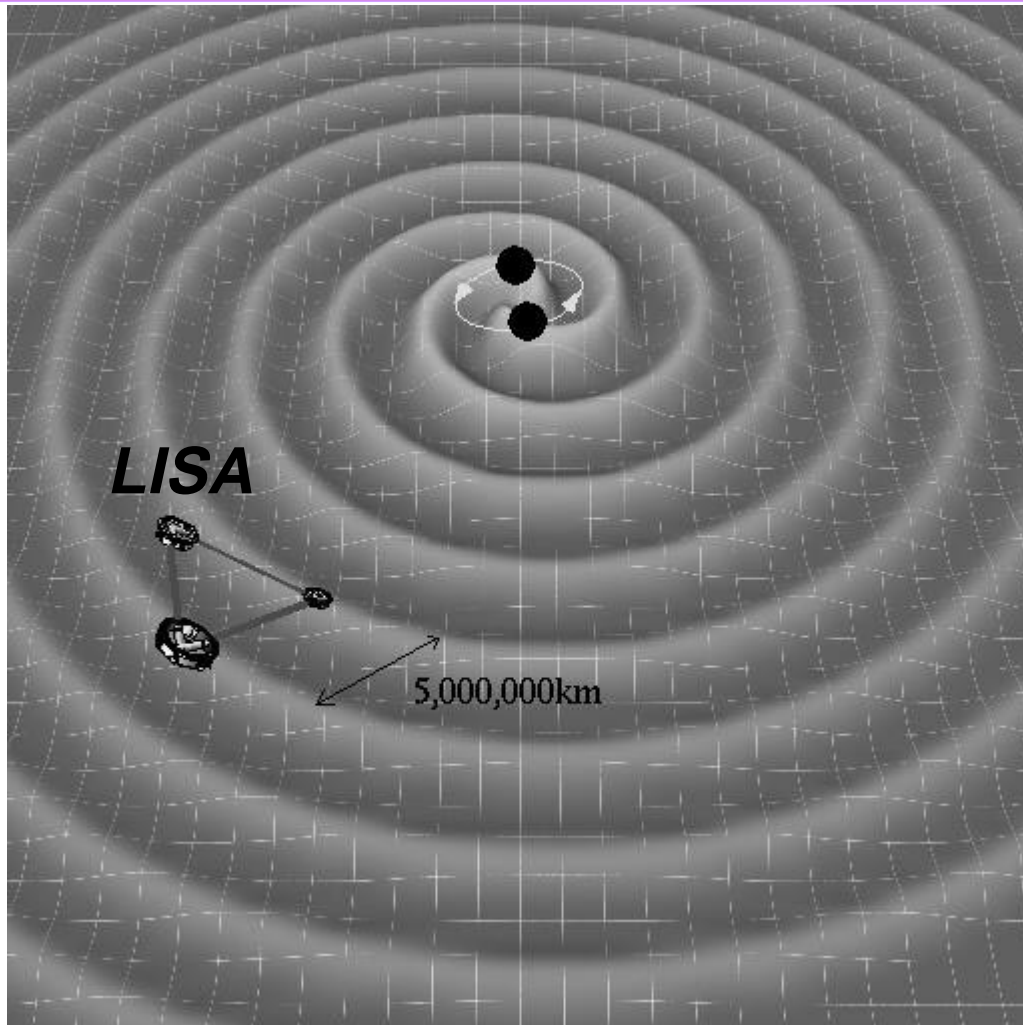
ALBERT  
EINSTEIN





# Gravitational Waves

*direct detection*

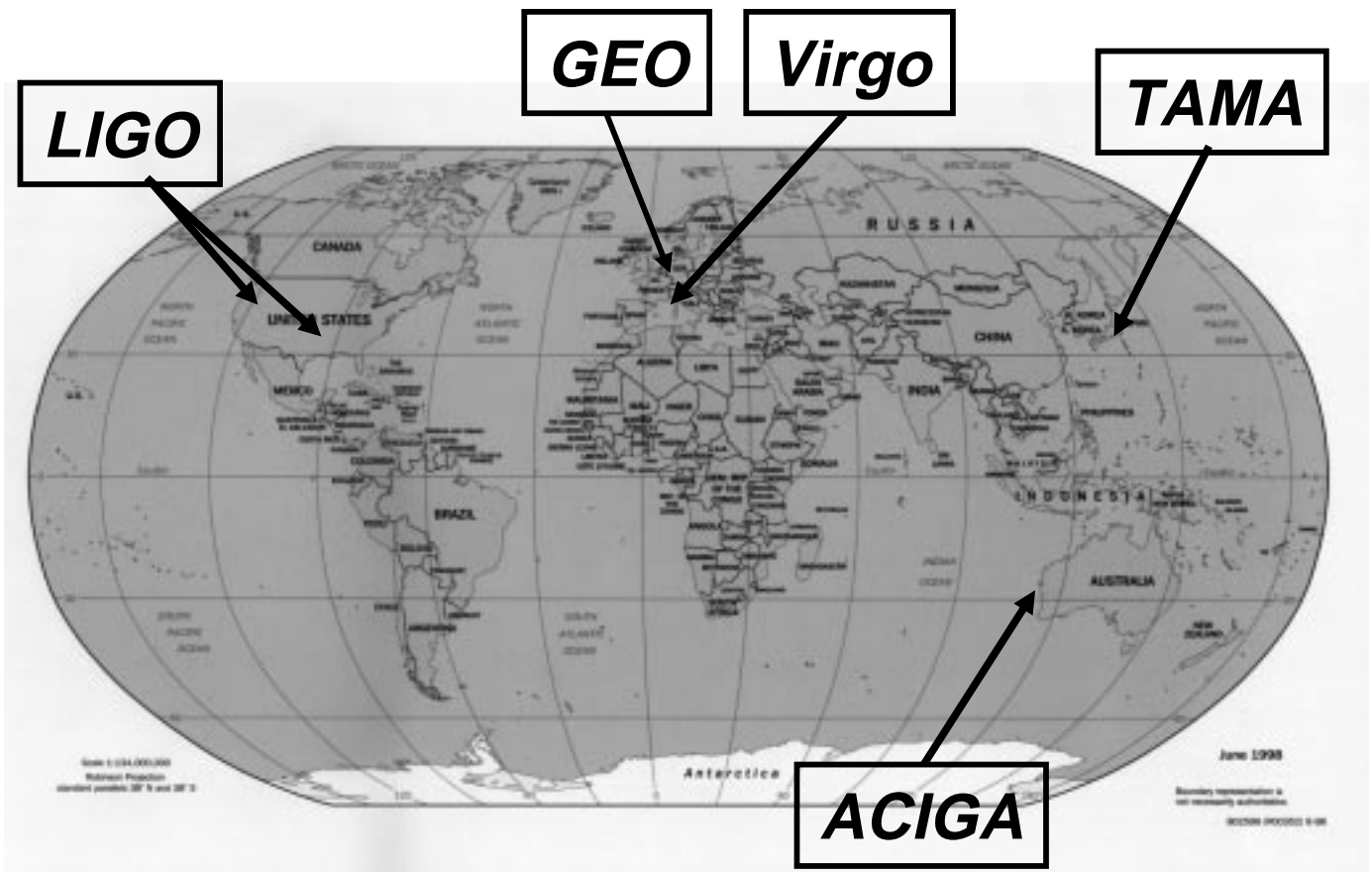


**Radiation of Gravitational Waves  
from binary inspiral system**



# International Network

*interferometers*



**Simultaneously detect signal (within msec)**

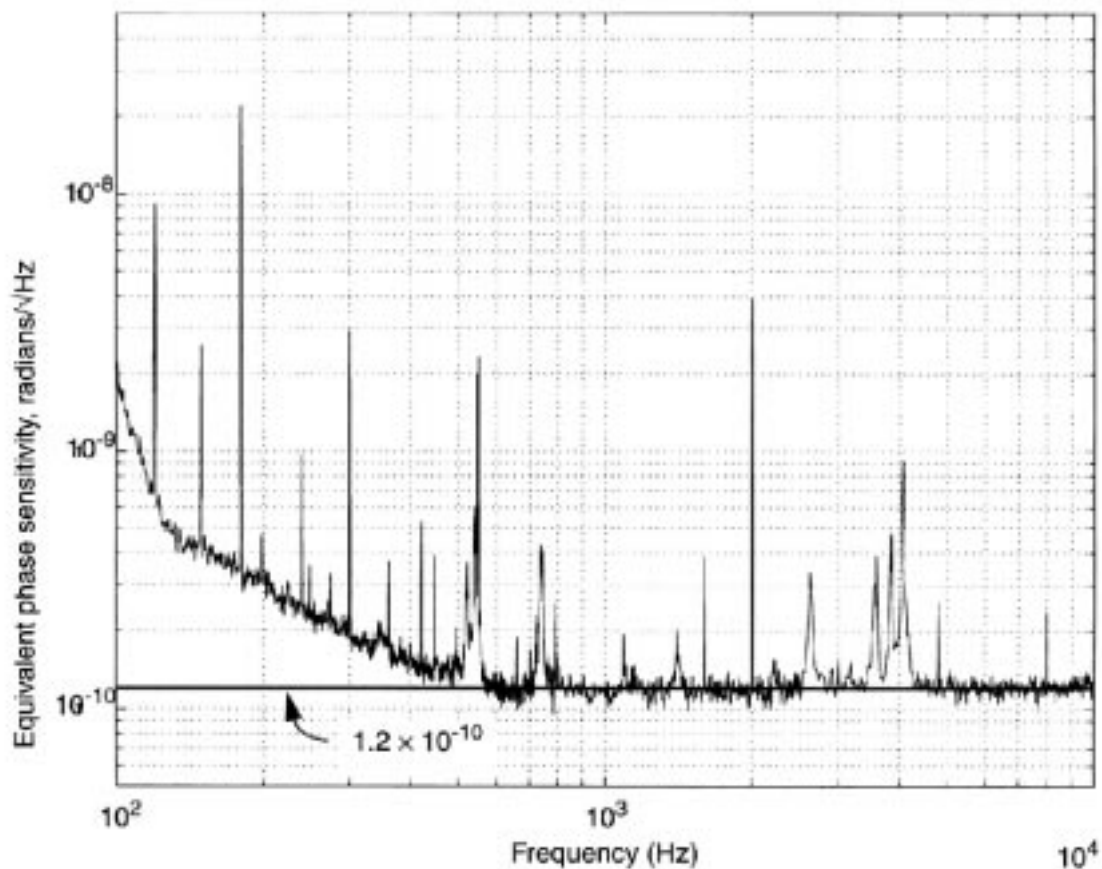
- **detection confidence**
- **locate the sources**
- **decompose polarization of gravitational waves**



# phase noise

## *splitting the fringe*

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- Spectral sensitivity of MIT phase noise interferometer
- above 500 Hz shot noise limited near LIGO I goal
- additional features are from 60 Hz powerline harmonics, wire resonances (600 Hz), mount resonances, etc