



LIGO

Gravitational Waves



Lake Louise Winter Institute

Barry Barish

Feb 23, 2000

LIGO-G000169-00-M



LIGO

Gravitational Waves



Lake Louise Winter Institute

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Feb 24, 2000



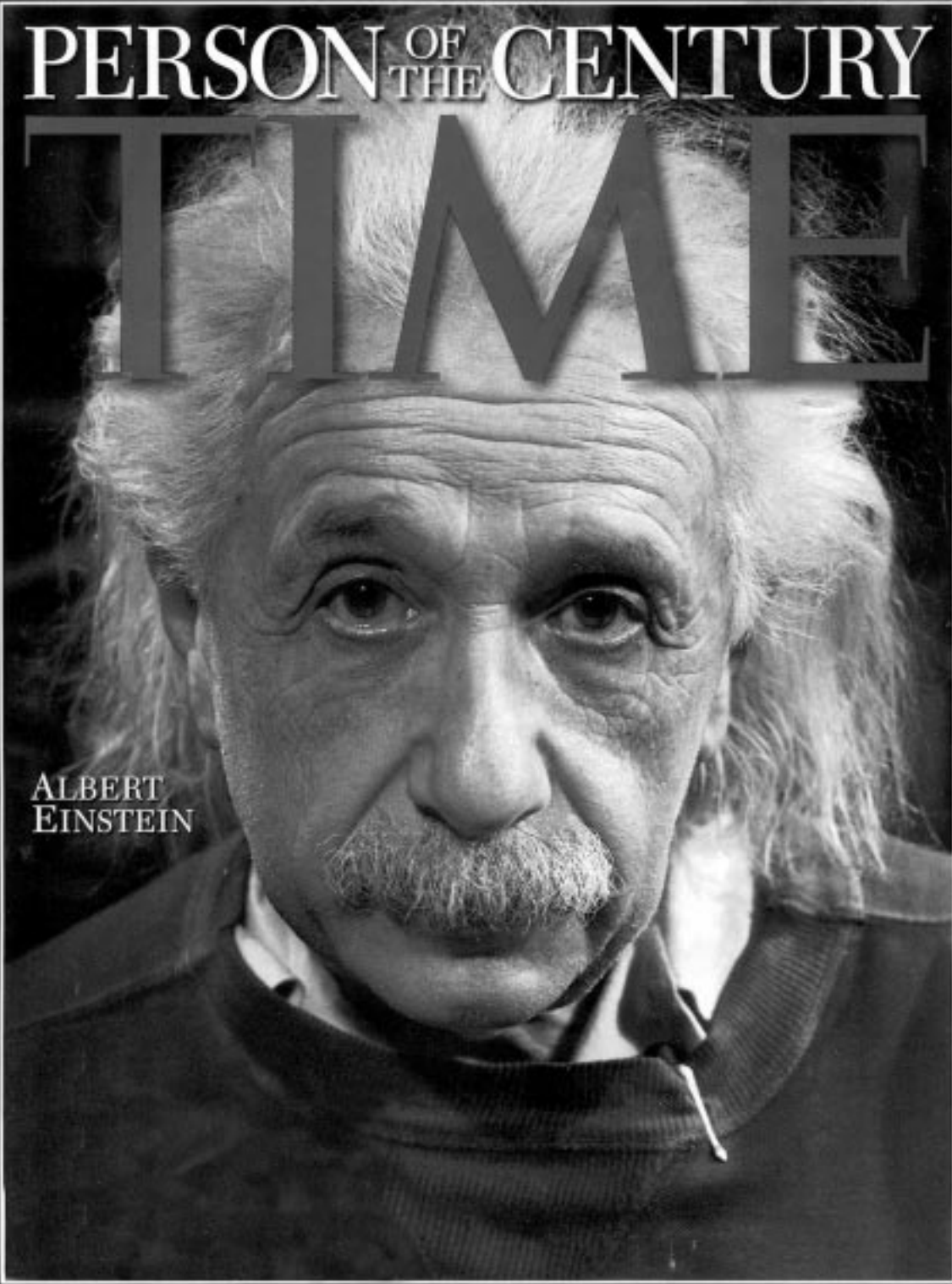
DECEMBER 31, 1999 \$4.95

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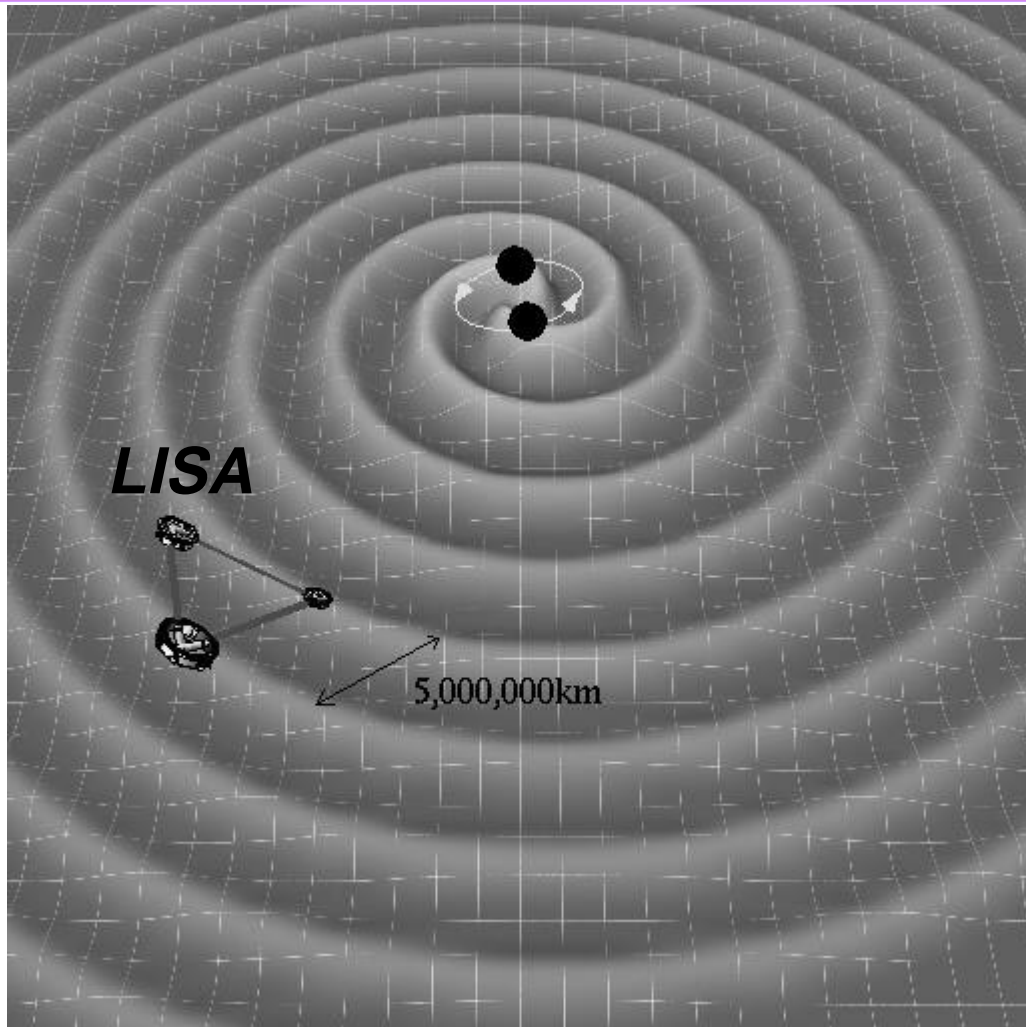
ALBERT
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Gravitational Waves

direct detection

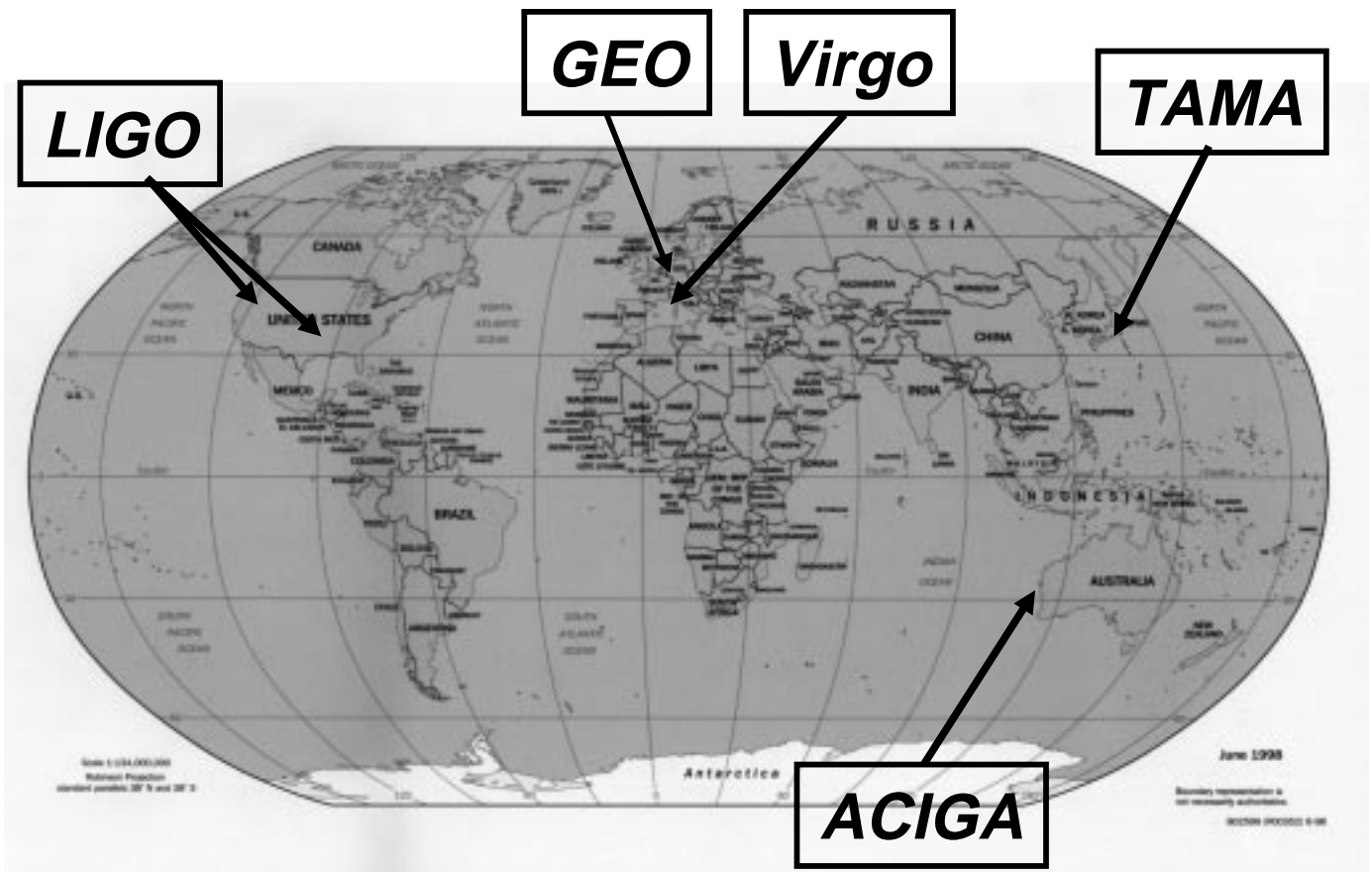


**Radiation of Gravitational Waves
from binary inspiral system**



International Network

interferometers



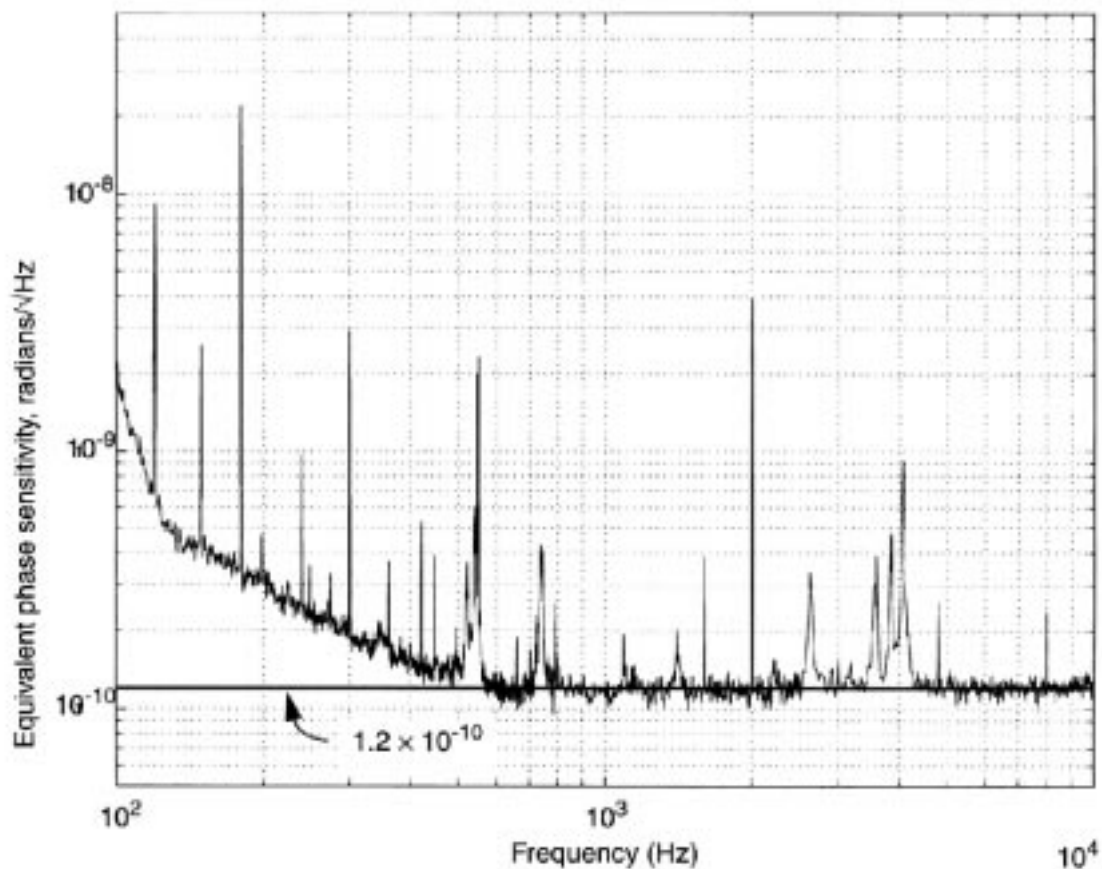
Simultaneously detect signal (within msec)

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



phase noise

splitting the fringe



- 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