



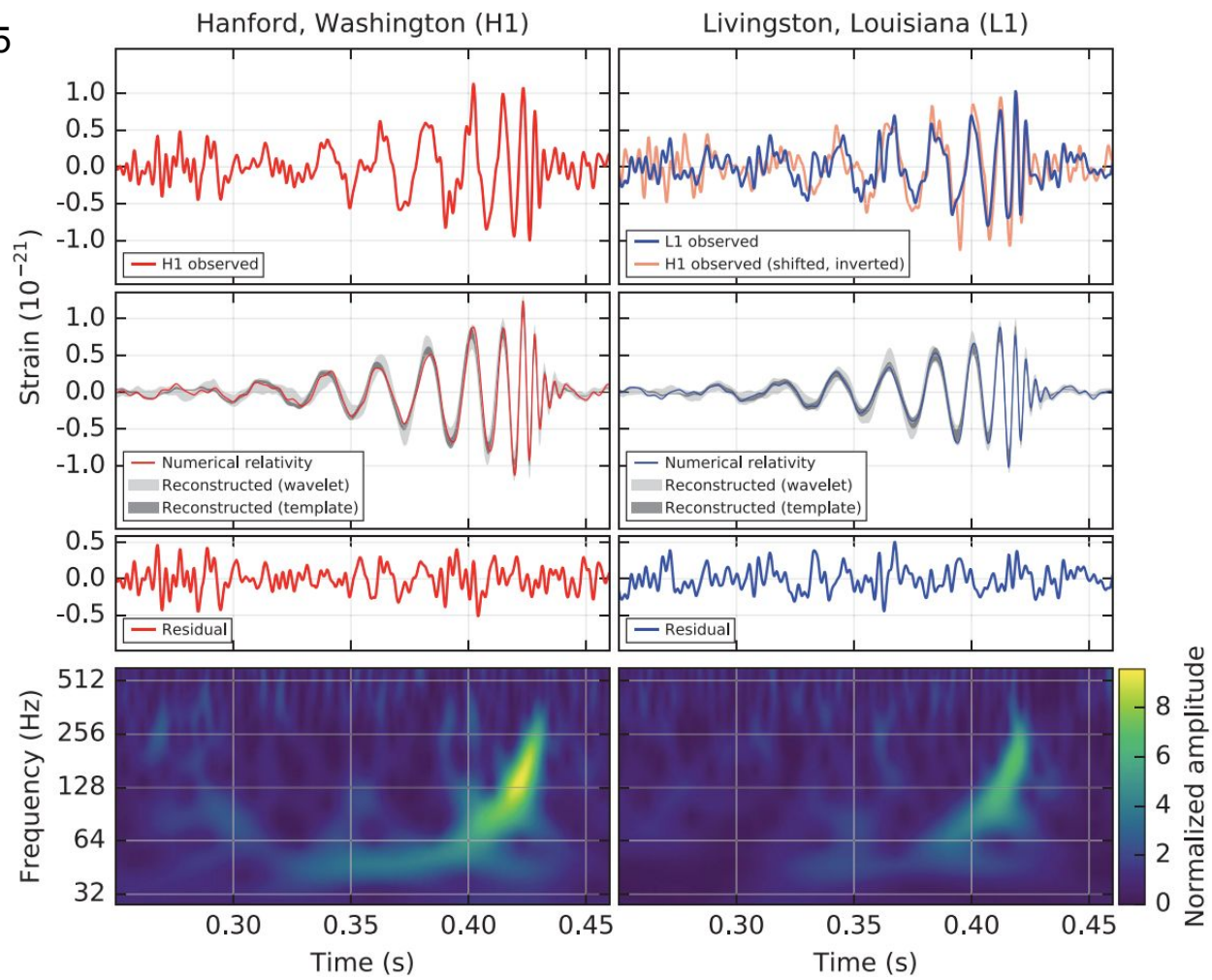
LIGO IdM Update

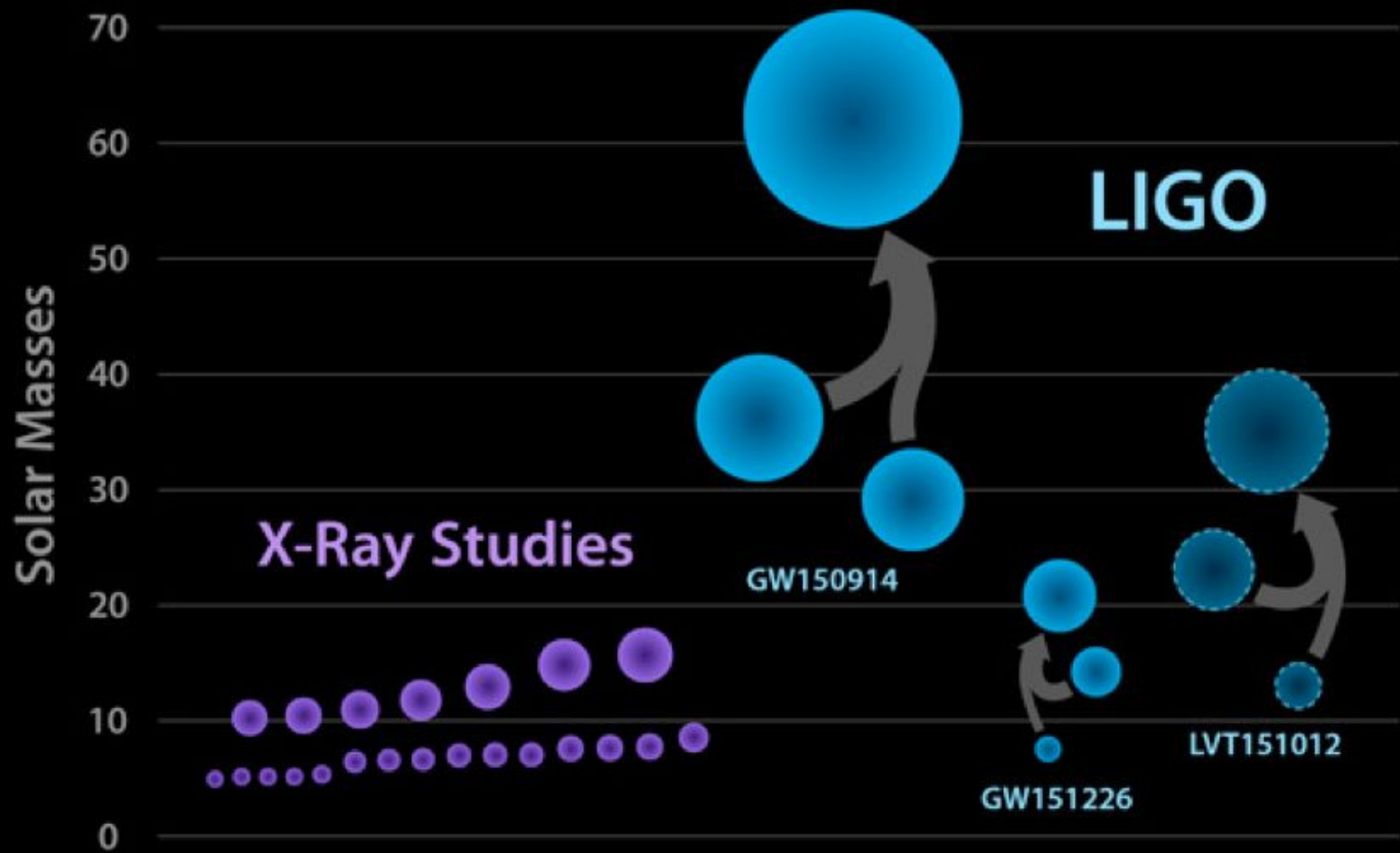
Scott Koranda
11th FIM4R Workshop
Montreal
18 Sep 2017



What's New?

September 14, 2015
9:50:45 UTC





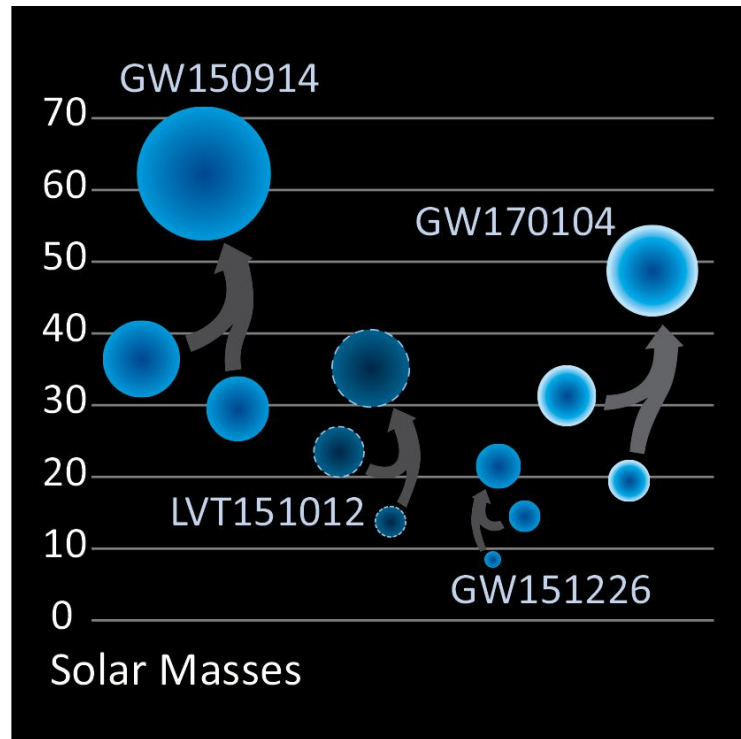


Yes, yes.

But what's new *since* the detection?

LIGO/Virgo Collaboration News

- Third black hole inspiral detection
 - 49 solar masses (previous were 62 and 21)
 - Confirms new population of black holes
- Second observing run (O2) ended August 25, 2017
 - Began November 30, 2016
 - Upgraded Virgo (French/Italian) detector joined August 1, 2017
 - 3 interferometers observing (LHO, LLO, Virgo)
 - Data analysis ongoing
 - Stay tuned for *interesting* papers...



KAGRA: Interferometer Underground in Japan



Photo credit to Govert Schilling,
Sky and Telescope



Dr. Karan Jani ✓

@AstroKPJ

Follow



A very optimistic time for gravitational wave community in India. Great update by [@somakrc](#) on [#LIGOIndia](#)! [#LVCmeeting2017](#) @CERN



CERN Main Auditorium



LVC meeting
CERN
Aug 30, 2017

CERN Main Auditorium

4:08 AM - 30 Aug 2017



Gravitational-wave astronomy is here.

Incredible time to be an astronomer.

Onto important matters like identity
management...



LIGO Identity and Access Management

Two theaters of engagement for LIGO IdM:

1. Enabling collaboration for the broad gravitational-wave astronomy community
2. Enabling collaboration for LIGO itself as a project



Enabling GW Astronomy Collaboration



Enabling GW Astronomy Collaboration


- Collaboration platform hosted at gw-astronomy.org
 - CManage Registry
 - Sympa email list service
 - Wiki
 - Gravitational Wave Candidate Event Database (GraceDB)

COmanage Registry: Home x

Secure https://gw-astronomy.org/registry/

Platform Scott Koranda (scott.koranda@ligo.org) Logout

COmanage Registry



Collaborations ▾

Welcome to COmanage Registry. Please select a collaboration.

Available Collaborations

Name	Description
COmanage	COmanage Gears Internal CO
CALICO (Not a Member)	
GWHEN (Not a Member)	
GWIC (Not a Member)	Gravitational Wave International Committee
GWNW (Not a Member)	Combined search for core-collapse supernovae using neutrino and gravitational waves
HTCondor-LIGO (Not a Member)	HTCondor LIGO Working Group
KAGRA-LIGO (Not a Member)	KAGRA LIGO Working Group
LSC-OSC (Not a Member)	
LV-EM (Not a Member)	LIGO Virgo Electromagnetic Followup
TechX (Not a Member)	TechX

Enabling GW Astronomy Collaboration

- Formally hosted and operated by University of Wisconsin-Milwaukee
 - SAML SPs registered in InCommon by UWM
 - Google, UnitedID, NCSA, XSEDE IdPofLR
- Increasing role and importance in era of GW Astronomy
 - Facilitating KAGRA and LIGO collaboration
 - Facilitating collaboration with electromagnetic and neutrino astronomers

gw-astronomy.org Challenges and Future

- Deliver more with less
 - Mature research collaboration capabilities with less FTE effort
 - Specifically less FTE effort on identity infrastructure
 - Focus effort at application layer (GraceDB and similar)
- Plan: Move much of IdM infrastructure to CILogon
 - CILogon2 project marries CILogon and CManage
 - Move gw-astronomy.org registry to CILogon
 - Move LDAP as the "attribute backplane"
 - Move SAML attribute authority
- What of applications?
 - Non-domain applications (wiki, email list server,...) take much of the effort
 - If not move then focus on delivering higher level of service



gw-astronomy.org Challenges and Future

- Do the SPs consume SAML or OIDC?
 - SAML cost is NOT the technology
 - SAML cost is working within the higher ed and research federations
 - CILogon delivers federated identity as a consumable service
- If SAML then ~~is it~~ it is time to proxy ? !
 - Entity categories did not and will not solve attribute release
 - Consent did not and will not solve attribute release
 - Progress requires a proxy
 - Promising technology stacks (SaToSa from SUNET)
 - New: LIGO has planned architecture for proxy, will begin with collaborative writing platform(s)
 - Less focus on pushing adoption of R&S

gw-astronomy.org Challenges and Future



- SIRTFI on hold for SPs
 - InCommon requires C level campus engagement for SIRTFI pilot
 - Self asserting capability not before May 2018
- Seeking more participation from some eduGAIN partners
 - KAGRA project in Japan ~~will drive needs~~ is driving needs
 - Paper writing with astronomers ~~will drive needs~~ is driving needs
 - Growing important effort in Korea
 - Growing important effort in India
- China?
 - "Candidate" status in eduGAIN
 - All IdPs of last resort not operated by LIGO use Google Captcha
 - Cirrus Identity has Chinese social media gateway (Weibo) now
 - Integrators that want accounts for testing but that do not read Chinese should find a Chinese-reading friend to help!



gw-astronomy.org Challenges and Future



- Of Governance?
 - National identity federations and eduGAIN as critical infrastructure
 - Yet no role for research in governance (completely IdP dominated today)
 - Can/should IGTF be the "science federation" that joins eduGAIN?





Enabling the LIGO Scientific Collaboration



LIGO Scientific Collaboration





LIGO Scientific Collaboration

- LIGO Laboratory operated by Caltech and MIT
 - Research groups sign MOUs with LIGO Laboratory to create LSC
 - Full data sharing agreement with French & Italian Virgo project
 - Roughly 1200 scientists worldwide that are "LIGO" from IdM perspective
-
- LIGO has operated its own SAML IdP since 2008
 - SSO for the LIGO collaboration

LIGO IdM Challenges and Future

- Can LIGO move to an entirely federated IdM infrastructure?
 - 75% of institutions in LIGO are members of InCommon
 - 95% of US researchers in LIGO at InCommon institutions
 - 75% of nations participating in LIGO in eduGAIN
 - 93% of LIGO researchers are in nations in eduGAIN
 - Thanks to Warren Anderson for gathering statistics...
- Proposal submitted to US National Science Foundation
 - ~~If funded~~ Funded project will begin to move LIGO to entirely consuming federated identity
 - ~~Expected 5~~ 3 year project

LIGO IdM Challenges and Future

- ~~Over 100 SAML SPs need to be pushed into eduGAIN~~
 - ~~Many not in ligo.org URL space~~
 - ~~ac.uk, caltech.edu, iucaa.in, mit.edu, mpg.de, re.kr, res.in, syr.edu, uni-hannover.de, uwm.edu~~
 - Proxy



LIGO IdM Challenges and Future

- SIRTFI adoption by campus IdPs will be critical
 - Eventually will be required for accessing LIGO resources
 - Will start flagging IdPs during discovery that are not compliant
- "A" baseline "LOA" will be critical
 - Must be demonstrable
 - That does not necessarily mean audits
- If your campus hosts astronomers but you do not assert SIRTFI, ready the Help Desk...scientist users will be coming for you...