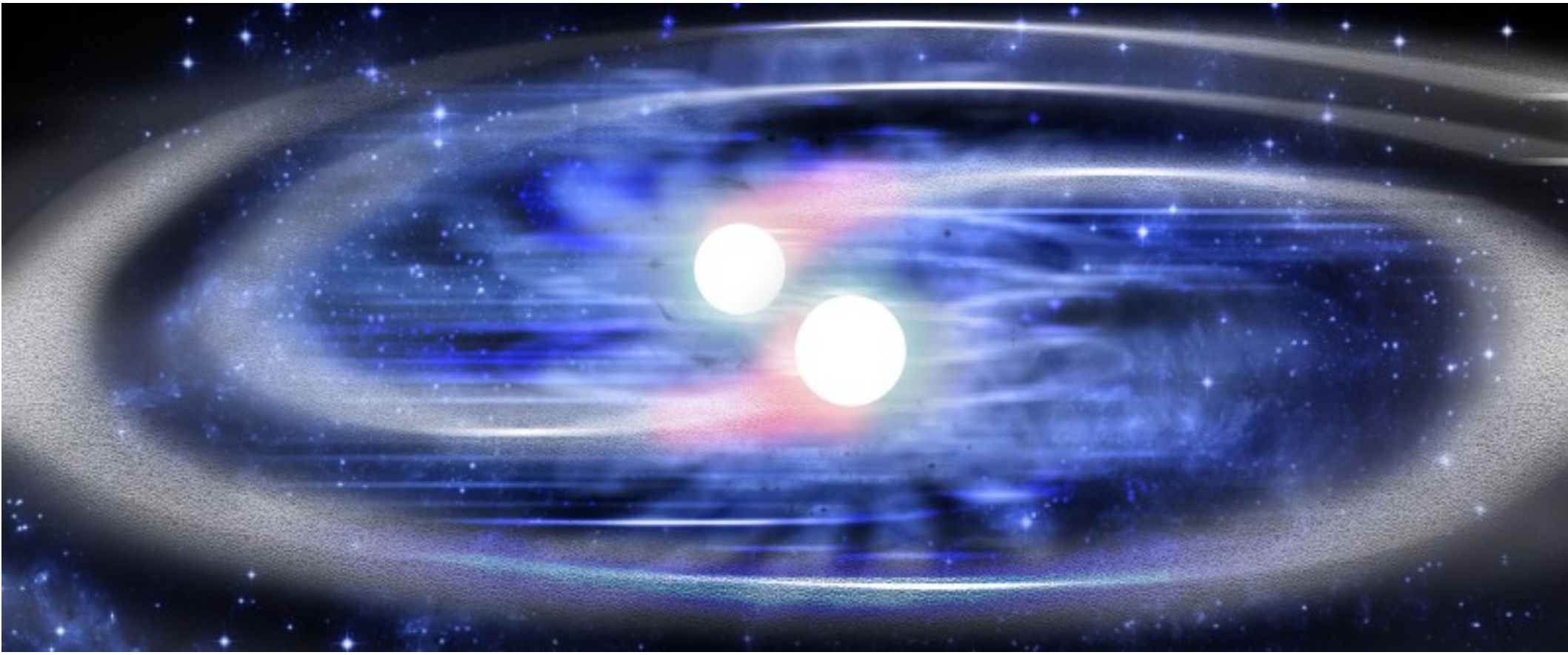
The gravitational wave sky and complementary observations



Introduction

Welcome

Science Organising Committee (SOC)

Natalie Webb (IRAP, France)

Marica Branchesi (Gran Sasso Science Institute, Italy)

Tomasz Bulik (Nicolaus Copernicus Astronomical Centre, Poland)

Heidi Korhonen (Max Planck Institute for Astronomy, Germany)

Nicolas Leroy (Laboratoire de physique des 2 infinis - Irène Joliot-Curie, France)

Monica Seglar Arroyo (Institut de Física d'Altes Energies, Spain)

Fabian Schussler (IRFU, CEA Paris-Saclay, France)

Tiina Suomijarvi (IJCLab, Paris-Saclay University, France)

Gwenhaël Wasseige (UCLouvain, Belgium)

Silvia Zhu (DESY, Germany)

Local Organising Committee (LOC, IRAP)

Zoé Massida

Thierry Contini

Vincent Foustoul

Olivier Godet

Sébastien Guillot

Carl Guthrie

Anastasia Kilina

Lydie Roosens

Natalie Webb

Robbie Webbe

Practical information

- Welcome to Toulouse and to the workshop !
- Wifi : Eduroam recommended. Alternatively, individual connections should have been received via email. If you did not receive one, ask at the workshop desk
- Presentations via central computer where possible – upload pdf of your slides
- Possibility to connect to the zoom and present from your own computer
- Coffee breaks & lunches served at the back – welcome to go outside
- Hybrid meeting, please use the microphone when asking questions
- For remote participants, please keep microphone muted when not speaking
- For remote participants, please raise hand to ask a question or post in chat
- For all participants, please be respectful to everyone
- For speakers, time slots include 5 or 10 minutes for questions, try to stick to time
- Dinner Wednesday at Chez Lilly, limited places, 40€ - drinks included, pay at restaurant – let us know if you can not coming so we can give your place to someone else

Welcome to IRAP

- The Research Institute for Astrophysics and Planetary Sciences (IRAP)
- 320 people, ~120 researchers, ~80 engineers, ~50 postdocs, ~50 PhD students
- Three sites, Roche & Belin in Toulouse and at Tarbes (Pic du Midi)
- One of the 9 institutes of the Midi-Pyrenees Observatory (OMP)
- Situated next to the French Space Agency (CNES) and University of Toulouse
- Wide range of research : plasma physics, solar system, the Sun, stars, interstellar medium, astro-chemistry, compact objects, astroparticle physics, fundamental physics, galaxies, cosmology, signal processing
- Strong instrumental development, i.e. SPI/integral, radiation monitors/XMM-Newton, ECLAIRs/SVOM and X-IFU/ Athena, Nectarcam/CTA, COSI, VLT/MUSE, ELT/MOSAIC, Planck/HFI
- Strong involvement in ground segment/data analysis activities, XMM-Newton-SSC, SVOM-EIC, SPI, VLT/MUSE, CDPP, etc

A bit about Toulouse

Motivation for this workshop and scope of the meeting

- Wealth of recent gravitational wave observations (LVK O4, PTA)
- Adoption LISA (January 2024)
- Launch of SVOM (June 2024) and Einstein Probe (January 2024) + 20 years Swift
- Development of time domain astronomy and new tools
- Many upcoming observatories with time domain capabilities (Rubin/LSST, CTA, SKA, ELT, etc)
- Recent theoretical models and simulations

- Present current and future gravitational wave detectors and observations
- Discuss known and potential sources of gravitational waves
- Review complementary electromagnetic and multi-messenger observations
- Discuss strategies for following up transients
- Identify future observational and theoretical requirements to advance our understanding of the evolution of the Universe