

Gravitation and Relativity Division Fachverband Gravitation und Relativitätstheorie (GR)

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The award of the Physics Nobel-Prize 2017 for the first direct detection of gravitational-waves and, in particular, the most recent observation (GW170817) of such waves from an inspiral of a binary-system of neutron stars, will naturally set the focus of this year’s annual meeting of our division. We will dive straight into the heart of the matter with three main talks by renowned experts on Monday afternoon; so be there in time! The AKjDPG has organized a tutorial on gravitational waves on Monday morning, which in that context is especially recommended to all younger and/or non-expert participants. In addition, there will be an interdisciplinary Symposium on recent observational and theoretical developments in gravity. Another innovation in our division is that posters will now be not only presented at the poster session, but kept for display throughout the whole week for further examination and discussion. This is part of our general call for stronger support of didactical and educational efforts. Finally I wish to mention the many other talks on observational and theoretical aspects, with quite a substantial part on Quantum Gravity/Cosmology, especially our plenary talk by Claudia de Rahm on the possibility of a consistent theory of “massive gravity” and its possible observational signatures.

Overview of Invited Talks and Sessions

(Lecture room NW-Bau - HS3 and Phys-SR-SE1; Poster Phys-SR-SE2)

Plenary talk of GR

PV IX Do 9:00– 9:45 Z6 - HS 0.004 **How Light is Gravity ?** — ●CLAUDIA DE RHAM

Invited talks

GR 1.1	Mo	16:00–16:50	NW-Bau - HS3	The Physics Nobel Prize 2017: Gravitational Waves — ●BERND BRÜGMANN
GR 1.2	Mo	16:50–17:40	NW-Bau - HS3	The gravitational wave detection of a binary neutron star merger: expectations, surprises, and prospects — ●JOCHEN GREINER
GR 1.3	Mo	17:40–18:30	NW-Bau - HS3	Neutron star mergers and the begin of multi-messenger astrophysics — ●STEPHAN ROSSWOG
GR 2.1	Di	11:00–11:45	NW-Bau - HS3	Die Physik von Gravitationswellendetektoren — ●RONNY NAWRODT
GR 2.2	Di	11:45–12:30	NW-Bau - HS3	Searching for continuous gravitational waves from spinning neutron stars: status and outlook — ●REINHARD PRIX
GR 5.1	Mi	11:00–11:45	NW-Bau - HS3	Formation of Double Neutron Stars and their Merger Rates — ●THOMAS TAURIS
GR 5.2	Mi	11:45–12:30	NW-Bau - HS3	Accretion-Driven Growth of Super-Massive Black Holes — ●WOLFGANG J. DUSCHL
GR 7.1	Mi	16:30–17:10	NW-Bau - HS3	Teaching about gravitational waves — ●MARKUS PÖSSEL
GR 7.2	Mi	17:10–17:50	NW-Bau - HS3	Visualizing relativistic effects in a non-relativistic model — ●THOMAS FILK
GR 9.1	Do	11:00–11:45	NW-Bau - HS3	Constructive QFT Approach to Quantum Gravity — ●THOMAS THIEMANN

GR 10.1	Do	11:45–12:30	NW-Bau - HS3	A test of the gravitational redshift using Galileo satellites 5 and 6 — •SVEN HERRMANN, FELIX FINKE, OLGA KICHAKOVA, CLAUS LÄMMERZAHN, MEIKE LIST, BENNY RIEVERS
GR 13.1	Do	16:30–17:15	NW-Bau - HS3	Theoretical aspects of relativistic geodesy — •DENNIS PHILIPP

Tutorial of AKjDPG: Gravitational Waves

See AKjDPG for the full program of the tutorial.

AKjDPG 1.1	Mo	9:00–10:30	Z6 - HS 0.001	Gravitational Waves - Theory and Observation — •CLAUS KIEFER
AKjDPG 1.2	Mo	11:00–11:45	Z6 - HS 0.001	Detecting gravitational waves — •MARKUS PÖSSEL
AKjDPG 1.3	Mo	11:45–12:30	Z6 - HS 0.001	Numerical simulations of black hole and neutron star systems — •BERND BRÜGMANN

Invited talks in the interdisciplinary symposium SYGR

See SYGR for the full program of the symposium.

SYGR 1.1	Di	14:00–14:30	Z6 - HS 0.004	New horizons in gravity — •LAVINIA HEISENBERG
SYGR 1.2	Di	14:30–15:00	Z6 - HS 0.004	Binary neutron stars: Einstein's richest laboratory — •LUCIANO REZZOLLA
SYGR 1.3	Di	15:00–15:30	Z6 - HS 0.004	Search for Dark Matter — •CHRISTIAN WEINHEIMER
SYGR 1.4	Di	15:30–16:00	Z6 - HS 0.004	From QFT on curved spacetimes to effective quantum gravity — •KASIA REJZNER

Sessions

GR 1.1–1.3	Mo	16:00–18:30	NW-Bau - HS3	Most recent developments in gravitational waves and relativistic astrophysics
GR 2.1–2.2	Di	11:00–12:30	NW-Bau - HS3	Gravitational waves I
GR 3.1–3.8	Di	16:30–19:10	NW-Bau - HS3	Alternative theories of gravity and general formalism
GR 4.1–4.5	Di	16:30–18:10	Phys-SR-SE1	Gravitational waves II
GR 5.1–5.2	Mi	11:00–12:30	NW-Bau - HS3	Relativistic astrophysics I
GR 6.1–6.6	Mi	14:00–16:00	NW-Bau - HS3	Relativistic astrophysics II
GR 7.1–7.2	Mi	16:30–17:50	NW-Bau - HS3	Didactical aspects of relativity
GR 8.1–8.15	Mi	18:00–19:30	Phys-SR-SE2	Poster session (permanent)
GR 9.1–9.1	Do	11:00–11:45	NW-Bau - HS3	Quantum Gravity I
GR 10.1–10.1	Do	11:45–12:30	NW-Bau - HS3	Experimental tests I
GR 11.1–11.6	Do	14:00–16:00	NW-Bau - HS3	Black Holes
GR 12.1–12.5	Do	14:00–15:40	Phys-SR-SE1	Alternative approaches
GR 13.1–13.8	Do	16:30–19:35	NW-Bau - HS3	Classical GR
GR 14	Do	19:45–20:45	NW-Bau - HS3	General assembly of the Gravitation and Relativity Division
GR 15.1–15.6	Fr	9:00–10:30	NW-Bau - HS3	Quantum Gravity II
GR 16.1–16.9	Fr	11:00–13:15	NW-Bau - HS3	Quantum Gravity III
GR 17.1–17.1	Fr	9:00– 9:20	Phys-SR-SE1	Experimental tests II
GR 18.1–18.3	Fr	9:20–10:20	Phys-SR-SE1	Cosmology
GR 19.1–19.2	Fr	11:00–11:40	Phys-SR-SE1	Numerical relativity

General assembly of the Gravitation and Relativity Division

Thursday 19:45–20:45 Building NW, Room HS3

- Report by the chairperson
- Election of new chairperson
- Election of new advisory board
- Presentation of books authored by members
- Miscellaneous