

# **Microphysics in Computational Relativistic Astrophysics: MICRA2009**

## **Report of Contributions**

Contribution ID: 1

Type: **not specified**

## **Numerical simulations for binary merger in Japan**

**Author:** MASARU, Shibata

**Presenter:** MASARU, Shibata

Contribution ID: 2

Type: **not specified**

## **The Isotropic Diffusion Source Approximation**

**Author:** SCHEIDEGGER, Simon

**Presenter:** SCHEIDEGGER, Simon

Contribution ID: 3

Type: **not specified**

## **New steps towards realistic simulations of general black hole-neutron star mergers**

**Author:** DUEZ, Matt

**Presenter:** DUEZ, Matt

Contribution ID: 4

Type: **not specified**

## **Relativistic Smooth Particle Hydrodynamics from a variational principle**

**Author:** ROSSWOG, Stephan

**Presenter:** ROSSWOG, Stephan

Contribution ID: 5

Type: **not specified**

## **Collisions of white dwarfs as a new progenitor channel for type Ia supernovae**

**Author:** ROSSWOG, Stephan

**Presenter:** ROSSWOG, Stephan

Contribution ID: 6

Type: **not specified**

## **3D MHD core collapse simulations: recent insights from the Basel group**

**Author:** SCHEIDECKER, Simon

**Presenter:** SCHEIDECKER, Simon

Contribution ID: 7

Type: **not specified**

## **The Emerging Synthesis in Core-Collapse Supernova Theory**

**Author:** BURROWS, Adam

**Presenter:** BURROWS, Adam

Contribution ID: **10**

Type: **not specified**

## **Neutron star binaries, magnetic fields, and equations of state**

**Author:** NEILSEN, David

**Presenter:** NEILSEN, David

Contribution ID: **11**

Type: **not specified**

## **Signals of the QCD phase transition in core-collapse supernovae**

**Author:** SAGERT, Irina

**Presenter:** SAGERT, Irina

Contribution ID: 12

Type: **not specified**

## **Simulating the MRI in core-collapse supernovae**

**Author:** OBERGAULINGER, Martin

**Presenter:** OBERGAULINGER, Martin

Contribution ID: 13

Type: **not specified**

## **Simulations of binary neutron stars: results, difficulties and prospects**

**Author:** REZZOLLA, Luciano

**Presenter:** REZZOLLA, Luciano

Contribution ID: 14

Type: **not specified**

## **Bar-mode instability of differentially rotating neutron stars with realistic equations of state**

**Author:** CORVINO, Giovanni

**Presenter:** CORVINO, Giovanni

Contribution ID: 15

Type: **not specified**

## **Solving the Einstein equations: why bother about the constraints?**

**Author:** NOVAK, Jerome

**Presenter:** NOVAK, Jerome

Contribution ID: **16**

Type: **not specified**

## **General relativistic hydrodynamics beyond bouncing polytropes**

**Author:** CERDA-DURAN, Pablo

**Presenter:** CERDA-DURAN, Pablo

Contribution ID: 17

Type: **not specified**

## Full GR Simulations with Microphysics

**Author:** SEKIGUCHI, Yuichiro

**Presenter:** SEKIGUCHI, Yuichiro

Contribution ID: **18**

Type: **not specified**

## **General relativistic equilibrium configurations with purely toroidal fields and its stability**

**Presenter:** KIUCHI, Kenta

Contribution ID: **19**

Type: **not specified**

## **Neutron star envelopes: (micro)physics and thermal radiation**

**Presenter:** POTHEKIN, Alexander

Contribution ID: **20**

Type: **not specified**

## **Finite Range Thomas Fermi Model**

**Presenter:** LIM, Yeunhwan

Contribution ID: 21

Type: **not specified**

## **Mu and Tau Neutrinos in Supernova Simulations (and a Leakage Scheme)**

**Presenter:** PEREGO, Albino

Contribution ID: 22

Type: **not specified**

## **Computational Infrastructure**

**Presenter:** SCHNETTER, Erik

Contribution ID: 23

Type: **not specified**

## **Microphysics, Methods, and Core-Collapse Supernovae**

**Presenter:** BURROWS, Adam

Contribution ID: 24

Type: **not specified**

## **Accretion-Induced Collapse of White Dwarfs**

**Presenter:** ABDIKAMALOV, Ernazar

Contribution ID: 25

Type: **not specified**

## **Binaries, GRBs and Hypercritical Accretion**

**Presenter:** MORENO-MENDEZ, Enrique

Contribution ID: **26**

Type: **not specified**

## **Type II Supernovae: Impact of electro-weak processes during core-collapse phase**

**Presenter:** FANTINA, Anthea

Contribution ID: 27

Type: **not specified**

## **Numerical Simulations of Relativistic Multifluids**

**Presenter:** HAWKE, Ian

Contribution ID: **28**

Type: **not specified**

## **Critical Conditions for Successful Neutrino-Driven Explosions and A Model for Gravitational Wave Emission**

**Presenter:** MURPHY, Jeremiah

Contribution ID: 29

Type: **not specified**

## Automatic Code Generation

**Presenter:** DIENER, Peter

Contribution ID: **30**

Type: **not specified**

## **Optimized Radiative Transfer**

**Presenter:** NORDLUND, Aake

Contribution ID: 31

Type: **not specified**

## **Exploring Hadron Physics in Black Hole Formation: a New Promising Target of Neutrino Astronomy**

**Presenter:** NAKAZATO, Ken'ichiro

Contribution ID: 32

Type: **not specified**

## **Gyroid Phase in Nuclear Pasta**

**Presenter:** NAKAZATO, Ken'ichiro

Contribution ID: 33

Type: **not specified**

## **Low-Density Nuclear Matter in Supernovae**

**Presenter:** O'CONNOR, Evan

Contribution ID: 34

Type: **not specified**

## **Black Hole Formation in Failing CCSNe**

**Presenter:** O'CONNOR, Evan

Contribution ID: 35

Type: **not specified**

## **A density-dependent nucleon-nucleon interaction for the HD EOS**

**Presenter:** PEDERIVA, Francesco

Contribution ID: 36

Type: **not specified**

## **Overview: The Equation of State for Numerical Simulations**

**Presenter:** LATTIMER, Jim

Contribution ID: 37

Type: **not specified**

## **Neutrino-matter Interactions from chiral EFT**

**Presenter:** SCHWENK, Achim

Contribution ID: 38

Type: **not specified**

## **Nucleosynthesis in Neutrino-Driven Winds**

**Presenter:** ARCONES, Almudena

Contribution ID: 39

Type: **not specified**

## **NSE and Beta Equilibrium**

**Presenter:** ARCONES, Almudena

Contribution ID: **40**

Type: **not specified**

## **Turbulence, Rotation and MHD: the von Neumann approach**

**Presenter:** ARNETT, W. David

Contribution ID: 41

Type: **not specified**

## **Microphysics: Electron capture rates and neutrino-nucleus cross sections**

**Presenter:** LANGANKE, Karlheinz

Contribution ID: 42

Type: **not specified**

## **Fission and the r-process**

**Presenter:** ZINNER, Nikolaj Thomas

Contribution ID: 43

Type: **not specified**

## **QCD phase diagram and quark matter at high densities**

**Presenter:** OERTEL, Micaela

## **Atoms and Atmospheres in Strong Magnetic Fields**

**Author:** HO, Wynn