

## Asst. Prof. Kai Oliver SCHWENZER

### Personal Information

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### International Researcher IDs

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Publons / Web Of Science ResearcherID: AAC-4565-2020

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### Education Information

Doctorate, Ruprecht-Karls-Universitaet Heidelberg, Physics, Theoretical Physics, Germany 2000 - 2003

Postgraduate, Ruprecht-Karls-Universitaet Heidelberg, Physics, Theoretical Physics, Germany 1993 - 2000

### Research Areas

Physics, Astronomy and Astrophysics, Natural Sciences

### Academic Titles / Tasks

Assistant Professor, Istanbul University, Faculty of Science, Astronomi, 2018 - Continues

Assistant Professor, Istanbul University, Faculty of Science, Astronomi, 2016 - 2018

Research Assistant PhD, Universitat Tübingen, Physics Faculty, Physics Dept., 2014 - 2016

Research Assistant PhD, University of Washington, Physics Faculty, Physics Faculty, 2008 - 2014

Research Assistant PhD, Universitaet Graz, Physics Faculty, Physics Faculty, 2006 - 2008

Research Assistant PhD, Ruprecht-Karls-Universitaet Heidelberg, Physics Faculty, Physics Faculty, 2005 - 2005

Research Assistant PhD, North Carolina State University, Physics Faculty, Physics Faculty, 2003 - 2005

Research Assistant, Ruprecht-Karls-Universitaet Heidelberg, Physics Faculty, Physics Faculty, 2000 - 2003

Lecturer, Ruprecht-Karls-Universitaet Heidelberg, Physics Faculty, Physics Faculty, 2000 - 2000

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **Signatures for quark matter from multi-messenger observations**  
Alford M. G., Han S., Schwenzer K. O.  
JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS, vol.46, no.11, 2019 (SCI-Expanded)
- II. **Viscous Dissipation and Heat Conduction in Binary Neutron-Star Mergers**  
Alford M. G., Bovard L., Hanauske M., Rezzolla L., Schwenzer K. O.  
PHYSICAL REVIEW LETTERS, vol.120, no.4, 2018 (SCI-Expanded)
- III. **X-ray bounds on the r-mode amplitude in millisecond pulsars**  
Schwenzer K. O., Boztepe T., Guver T., Vurgun E.  
MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, vol.466, no.3, pp.2560-2569, 2017 (SCI-Expanded)
- IV. **r-mode astronomy**

- KOKKOTAS K. D., Schwenzer K. O.  
EUROPEAN PHYSICAL JOURNAL A, vol.52, no.2, 2016 (SCI-Expanded)
- V. **Phase conversion dissipation in multicomponent compact stars**  
ALFORD M. G., HAN S., Schwenzer K. O.  
PHYSICAL REVIEW C, vol.91, no.5, 2015 (SCI-Expanded)
- VI. **Gravitational wave emission from oscillating millisecond pulsars**  
ALFORD M. G., Schwenzer K. O.  
MONTHLY NOTICES OF THE ROYAL ASTRONOMICAL SOCIETY, vol.446, no.4, pp.3631-3641, 2015 (SCI-Expanded)
- VII. **What the Timing of Millisecond Pulsars Can Teach us about Their Interior**  
ALFORD M. G., Schwenzer K. O.  
PHYSICAL REVIEW LETTERS, vol.113, no.25, 2014 (SCI-Expanded)
- VIII. **Probing dense matter in compact star cores with radio pulsar data**  
Alford M. G., Schwenzer K. O.  
NUCLEAR PHYSICS A, vol.931, pp.740-745, 2014 (SCI-Expanded)
- IX. **QCD and strongly coupled gauge theories: challenges and perspectives**  
Brambilla N., Eidelman S., Foka P., Gardner S., Kronfeld A. S., Alford M. G., Alkofer R., Butenschoen M., Cohen T. D., Erdmenger J., et al.  
EUROPEAN PHYSICAL JOURNAL C, vol.74, no.10, 2014 (SCI-Expanded)
- X. **C7 multi-messenger astronomy of GW sources**  
Branchesi M., Woan G., Astone P., Bartos I., Colla A., Covino S., Drago M., Fan X., Frasca S., Hanna C., et al.  
GENERAL RELATIVITY AND GRAVITATION, vol.46, no.9, 2014 (SCI-Expanded)
- XI. **GRAVITATIONAL WAVE EMISSION AND SPIN-DOWN OF YOUNG PULSARS**  
Alford M. G., Schwenzer K. O.  
ASTROPHYSICAL JOURNAL, vol.781, no.1, 2014 (SCI-Expanded)
- XII. **Bridging the Gap by Squeezing Superfluid Matter**  
Alford M. G., Reddy S., Schwenzer K. O.  
PHYSICAL REVIEW LETTERS, vol.108, no.11, 2012 (SCI-Expanded)
- XIII. **Viscous damping of r-modes: Large amplitude saturation**  
Alford M. G., Mahmoodifar S., Schwenzer K. O.  
PHYSICAL REVIEW D, vol.85, no.4, 2012 (SCI-Expanded)
- XIV. **Viscous damping of r-modes: Small amplitude instability**  
Alford M. G., Mahmoodifar S., Schwenzer K. O.  
PHYSICAL REVIEW D, vol.85, no.2, 2012 (SCI-Expanded)
- XV. **Large amplitude behavior of the bulk viscosity of dense matter**  
Alford M. G., Mahmoodifar S., Schwenzer K. O.  
JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS, vol.37, no.12, 2010 (SCI-Expanded)
- XVI. **On the infrared scaling solution of SU(N) Yang-Mills theories in the maximally Abelian gauge**  
Huber M. Q., Schwenzer K. O., Alkofer R.  
EUROPEAN PHYSICAL JOURNAL C, vol.68, pp.581-600, 2010 (SCI-Expanded)
- XVII. **On the connection between Hamilton and Lagrange formalism in quantum field theory**  
Villalba-Chavez S., Alkofer R., Schwenzer K. O.  
JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS, vol.37, no.8, 2010 (SCI-Expanded)
- XVIII. **Infrared singularities in Landau gauge Yang-Mills theory**  
Alkofer R., Huber M. Q., Schwenzer K. O.  
PHYSICAL REVIEW D, vol.81, no.10, 2010 (SCI-Expanded)
- XIX. **On the infrared behavior of Landau Gauge Yang-Mills theory with a fundamentally charged scalar field**  
Fister L., Alkofer R., Schwenzer K. O.  
PHYSICS LETTERS B, vol.688, pp.237-243, 2010 (SCI-Expanded)
- XX. **Infrared behavior of three-point functions in Landau gauge Yang-Mills theory**  
Alkofer R., Huber M. Q., Schwenzer K. O.

- EUROPEAN PHYSICAL JOURNAL C, vol.62, no.4, pp.761-781, 2009 (SCI-Expanded)
- XXI. **Algorithmic derivation of Dyson-Schwinger equations**  
Alkofer R., Huber M. Q., Schwenzer K. O.  
COMPUTER PHYSICS COMMUNICATIONS, vol.180, no.6, pp.965-976, 2009 (SCI-Expanded)
- XXII. **The quark-gluon vertex in Landau gauge QCD: Its role in dynamical chiral symmetry breaking and quark confinement**  
Alkofer R., Fischer C. S., Llanes-Estrada F. J., Schwenzer K. O.  
ANNALS OF PHYSICS, vol.324, no.1, pp.106-172, 2009 (SCI-Expanded)
- XXIII. **The infrared behavior of Landau gauge Yang-Mills theory in  $d=2, 3$  and 4 dimensions**  
Huber M. Q., Alkofer R., Fischer C. S., Schwenzer K. O.  
PHYSICS LETTERS B, vol.659, pp.434-440, 2008 (SCI-Expanded)
- XXIV. **What the infrared behavior of qcd vertex functions in Landau gauge can tell us about confinement**  
Alkofer R., Fischer C. S., Llanes-Estrada F. J., Schwenzer K. O.  
INTERNATIONAL JOURNAL OF MODERN PHYSICS E, vol.16, no.9, pp.2720-2732, 2007 (SCI-Expanded)
- XXV. **Perturbative QCD results in the strong coupling regime of dense matter**  
Schwenzer K. O.  
NUCLEAR PHYSICS A, vol.785, 2007 (SCI-Expanded)
- XXVI. **Low-energy dynamics in ultradegenerate QCD matter**  
Schaefer T., Schwenzer K. O.  
PHYSICAL REVIEW LETTERS, vol.97, no.9, 2006 (SCI-Expanded)
- XXVII. **Neutrino emission from ungapped quark matter**  
Schaefer T., Schwenzer K. O.  
PHYSICAL REVIEW D, vol.70, no.11, 2004 (SCI-Expanded)
- XXVIII. **Linking the quark meson model with QCD at high temperature**  
Braun J., Pirner H., Schwenzer K. O.  
PHYSICAL REVIEW D, vol.70, no.8, 2004 (SCI-Expanded)
- XXIX. **Non-Fermi liquid effects in QCD at high density**  
Schaefer T., Schwenzer K. O.  
PHYSICAL REVIEW D, vol.70, no.5, 2004 (SCI-Expanded)
- XXX. **Resolution-dependent quark masses from meson correlators**  
Forkel H., Schwenzer K. O.  
PHYSICAL REVIEW C, vol.67, no.3, 2003 (SCI-Expanded)
- XXXI. **Spectrum of the Dirac operator in the linear sigma model with quarks**  
Spitzenberg T., Schwenzer K. O., Pirner H.  
PHYSICAL REVIEW D, vol.65, no.7, 2002 (SCI-Expanded)
- XXXII. **Renormalization group flow in large  $N_c$**   
Meyer J., Schwenzer K. O., Pirner H., Deandrea A.  
PHYSICS LETTERS B, vol.526, pp.79-89, 2002 (SCI-Expanded)
- XXXIII. **Unifying nucleon and quark dynamics at finite baryon number density**  
Schwenzer K. O., Meyer J., Pirner H.  
PHYSICS LETTERS B, vol.473, pp.25-28, 2000 (SCI-Expanded)

## Refereed Congress / Symposium Publications in Proceedings

- I. **X-ray bounds on the r-mode amplitude in millisecond pulsars**  
GÜVER T., Psaltis D., Göğüş E., Özel F., SCHWENZER K. O., BOZTEPE T.  
COSPAR 2018, California, United States Of America, 18 - 22 July 2018, pp.1
- II. **X-ray bounds on the r-mode amplitude in millisecond pulsars**  
GÜVER T., SCHWENZER K. O.  
European Week of Astronomy and Space Sciences, Prag, Czech Republic, 26 - 30 June 2017, pp.1

- III. **Impact of r-modes on the cooling of neutron stars**  
Alford M. G., Mahmoodifar S., Schwenzer K. O.  
International Workshop on Quantum Chromodynamics - Theory and Experiment (QCD at Work), Lecce, Italy, 18 - 21 June 2012, vol.1492, pp.257-263
- IV. **Non-linear viscous saturation of r-modes**  
Alford M., Mahmoodifar S., Schwenzer K. O.  
9th International Conference on Quark Confinement and the Hadron Spectrum, Madrid, Spain, 30 August - 03 September 2010, vol.1343, pp.580-582
- V. **Suprathermal viscosity of dense matter**  
Alford M., Mahmoodifar S., Schwenzer K. O.  
International Workshop on Quantum Chromodynamics: Theory and Experiment, Martina Franca, Italy, 20 - 23 June 2010, vol.1317, pp.380-387
- VI. **Non Fermi liquid effects in dense matter and compact star cooling**  
Schwenzer K. O., Schafer T.  
6th International Conference on Strong and Electroweak Matter (SEWM 2004), Helsinki, Finland, 16 - 19 June 2004, pp.421-425
- VII. **Renormalization group approach to the phase diagram of strong interaction**  
Schwenzer K. O., Pirner H.  
5th International Conference on Strong and Electroweak Matter (SEWM 2002), Heidelberg, Germany, 2 - 05 October 2002, pp.343-347

## Supported Projects

VURGUN E., BOZTEPE T., SCHWENZER K. O., Project Supported by Higher Education Institutions, X-ray bounds on the r-mode amplitude in millisecond pulsars, 2017 - 2017

## Metrics

Publication: 40

Citation (WoS): 1078

Citation (Scopus): 1073

H-Index (WoS): 18

H-Index (Scopus): 17