



Research interests

The main field of activity are investigations of thermophysical properties of liquid metals and alloys with various techniques such as subsecond pulse heating, DSC (Differential Scanning Calorimetry), and four point probes. Recently my work-group started levitation experiments with an electromagnetic levitator.

Research output

1. **Preparation Method of Spherical and Monocrystalline Aluminum Powder.** / Skalon, Mateusz; Hebda, Marek; Buzolin, Ricardo; Pottlacher, Gernot; Mitsche, Stefan; Sommitsch, Christof.
In: *Metals*, Vol. 9, No. 3, 375, 23.03.2019.
2. **Density of Liquid Tantalum and Estimation of Critical Point Data.** / Leitner, M.; Schröder, W.; Pottlacher, G.
In: *International Journal of Thermophysics*, Vol. 39, No. 11, 124, 01.11.2018.
3. **Thermal conductivity of liquid metals.** / Pichler, Peter; Pottlacher, Gernot R.
Impact of Thermal Conductivity on Energy Technologies. InTech - Open Access Publisher, 2018.
4. **Bestimmung der temperaturabhängigen Oberflächenspannung des Eisen-Nickel Systems mittels elektromagnetischer Levitation.** / Leitner, Thomas; Klemmer, Olivia; Pottlacher, Gernot.
In: *Technisches Messen*, 10.2017.
5. **Thermophysical properties of liquid binary Mg-based alloys.** / Plevachuk, Y.; Sklyarchuk, V.; Pottlacher, G.; Yakymovych, A.; Tkach, O.
In: *Journal of mining and metallurgy / B*, Vol. 53, No. 3, 10.2017, p. 279-284.
6. **Thermophysical properties of five industrial steels in the solid and in the liquid phase.** / Wilthan, Boris; Schützenhöfer, Wolfgang; Pottlacher, Gernot R.
In: *International Journal of Thermophysics*, 03.04.2017.
7. **Thermophysical Properties of Liquid Aluminum.** / Leitner, Matthias; Leitner, Thomas; Schmon, Alexander; Aziz, Kirmanj; Pottlacher, Gernot.
In: *Metallurgical and materials transactions / A*, 23.03.2017, p. 1-10.
8. **Density of liquid Ti-6Al-4V.** / Schmon, Alexander; Pottlacher, Gernot; Aziz, Kirmanj.
In: *EPJ Web of Conferences*, Vol. 151, 04003, 2017.
9. **Thermal diffusivity and conductivity of ruthenium in the temperature range 200 to 1670 K.** / Milosevic, Nenad D.; Kaschnitz, Erhard; Pottlacher, Gernot R.
In: *High temperatures, high pressures*, 2017, p. 281-288.
10. **Thermophysical Property Measurement: A Call to Action.** / Matson, Douglas M.; Watanabe, Masahito; Pottlacher, Gernot R.; Lee, Geun Woo; Fecht, Hans-Jörg.
In: *International Journal of Microgravity Science and Application*, Vol. 33, No. 3, 31.07.2016, p. 330304-1 - 330304-7.

Activities

1. **Detection of Local Anomalies on Patterned Surfaces**
Gernot R. Pottlacher (Agent)
30 Apr 2019
2. **Was kocht in der Physik? Physikexperimente mit Lebensmitteln**
Gernot R. Pottlacher (Speaker), Peter Pichler (Speaker)
27 Feb 2019
3. **Journal of Applied Physics (Journal)**
Gernot R. Pottlacher (Peer reviewer)
Jan 2019
4. **Unique experimental equipment for complex investigation of thermophysical characteristics of metals and alloys**
Gernot R. Pottlacher (Speaker)
19 Dec 2018

5. **Weihnachtsvorlesung 2018 / Pottlachers Experimentiervorlesung**
Gernot R. Pottlacher (Speaker), Roland Lammegger (Contributor), Laurentius Windholz (Contributor), Matthias Leitner (Contributor), Thomas Leitner (Contributor), Peter Pichler (Contributor)
12 Dec 2018
6. **Yuriy Plevachuk**
Gernot R. Pottlacher (Host)
24 Nov 2018 → 8 Dec 2018
7. **Nuclear Technology (Journal)**
Gernot R. Pottlacher (Peer reviewer)
14 Oct 2018 → 14 Nov 2018
8. **The Journal of Chemical Thermodynamics (Journal)**
Gernot R. Pottlacher (Peer reviewer)
1 Oct 2018 → 15 Oct 2018
9. **Advanced Materials Day 2018**
Thomas Leitner (Speaker), Gernot R. Pottlacher (Contributor), Siegfried Kleber (Contributor)
21 Sep 2018
10. **68th Annual Meeting of the Austrian Physical Society**
Wolfgang E. Ernst (Organiser), Gernot R. Pottlacher (Organiser), Martin Sterrer (Organiser)
11 Sep 2018 → 14 Sep 2018

Projects

1. **Surfacetension-Steel - Measurement of surface tension and density of liquid steel by means of electromagnetic levitation**
Pottlacher, G. & Leitner, T.
1/10/16 → 30/09/20
2. **FWF - Levitation - Measurement of surface tension and density by means of levitation**
Aziz, K., Pottlacher, G. & Schmon, A.
1/08/11 → 31/07/16
3. **Metallic Melts 2 - Electrical Resistivity Measurement of High Temperature Metallic Melts- Part 2**
Hüpf, T., Cagran, C. & Pottlacher, G.
1/09/08 → 31/07/15
4. **Lorenz-Zahl - B2: Lorenz-number and thermal diffusivity of high-alloyed steels**
Reschab, H. C. & Pottlacher, G.
1/10/07 → 31/03/11
5. **High Temperature Metallic Melt - Electrical Resistivity Measurement of High Temperature Metallic Melts**
Cagran, C., Hüpf, T. & Pottlacher, G.
1/11/06 → 30/04/08
6. **Best. thermophys. Daten von St. - Experimentelle Bestimmung thermophysikalischer Daten von Stählen und Nickelbasislegierungen**
Wilthan, B. & Pottlacher, G.
1/01/06 → 30/06/07
7. **Microsecond Laser Polarimetry for Emissivity Measurements on Liquid Metals and Alloys at High Temperatures**
Wilthan, B., Cagran, C. & Pottlacher, G.
1/09/01 → 31/08/05
8. **Determination of normal spectral emissivity at 684.5 nm of liquid metals**
Pottlacher, G.
1/09/98 → 31/08/01