Phase Diagram Activities in China

Report to APDIC

Chinese Phase Diagram Committee (CPDC)

Chinese Representatives to APDIC:

M. Jiang (Northeastern University)

Y. Du (Central South University)

May 23, 2019
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## 1. Publications in 2018

Data Analysis of papers published by members of CPDC in 2018 (156 in total)

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Property and application</td>
<td>44</td>
<td>28.2%</td>
</tr>
<tr>
<td>2. Phase diagram (CALPHAD type)</td>
<td>23</td>
<td>14.7%</td>
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<tr>
<td>3. Phase diagram (experimental)</td>
<td>32</td>
<td>20.5%</td>
</tr>
<tr>
<td>4. First-principal calculation</td>
<td>6</td>
<td>3.8%</td>
</tr>
<tr>
<td>5. Crystal structure</td>
<td>19</td>
<td>12.2%</td>
</tr>
<tr>
<td>6. Diffusion</td>
<td>13</td>
<td>8.3%</td>
</tr>
<tr>
<td>7. Oxide and others</td>
<td>19</td>
<td>12.2%</td>
</tr>
</tbody>
</table>


- Zelin Luo, Yong Du, Yuling Liu, Sai Tang, Yafei Pan, Hong Mao, Yingbiao Peng, Wensheng Liu, and Zikui Liu, “Phase field simulation of the phase separation in the TiC-ZrC-WC system”, *CALPHAD*, 63, 190-95 (2018).

1. Publications in 2018

Central South University, Changsha (Du, Y., yongduyong@gmail.com, Liu, L.B., lbliu@mail.csu.edu.cn, Liu, H.S., hsliu@mail.csu.edu.cn)


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Beijing University of Technology, Beijing (Song, X.Y. xysong@bjut.edu.cn)


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Beijing University of Technology, Beijing (Song, X.Y. xysong@bjut.edu.cn)


1. Publications in 2018

Guangxi University, Nanning (Ouyang, Y.F, ouyangyf@gxu.edu.cn)


• Zhuxin Li, Qiuchun Lu, Chengjun Qi, Xiaoming Mo*, Yulu Zhou, Xiaoma Tao, Yifang Ouyang, “Enhanced electroluminescence from n-ZnONCs/n-Si isotype heterojunctions by using i-NiO as electron blocking layer”, Journal of Luminescence, 204, 5-9, (2018).

1. Publications in 2018

Guangxi University, Nanning (Ouyang, Y.F, ouyangyf@gxu.edu.cn, Yan, J.L, yanjlworld@163.com)


1. Publications in 2018

Beihang University, Beijing (Wang, C. congwang@buaa.edu.cn)

\[\begin{align*}
79. & \quad \text{Sihao Deng, Ying Sun*, HuiWu, Zaixing Shi, LeiWang, Jun Yan, Kewen Shi, Pengwei Hu, Xungang Diao, Qingzhen Huang, Christoph Sürgers, Cong Wang*, "Phase separation and zero thermal expansion in antiperovskite Mn3Zn0.77Mn0.19N0.94: An in situ neutron diffraction investigation", } \textit{Scripta Materialia}, 146, 18–21, (2018). \\
& \quad \text{Huiqing Lu, Ying Sun, Kewen Shi, Lei Wang, Wei Wang, Rongjing Huang, Xiuliang Yuan, Jun Yan, Xungang Diao, Cong Wang*, "Effects of Ni Substitution on Magnetism and Thermal Expansion of Antiperovskite Mn3Ga1-xNixN (0 \leq x \leq 1.0)", } \textit{Ceramics International}, 44, 9574–9580, (2018). \\
& \quad \text{Wenjun Zhao, Ying Sun*, Yufei Liu, Kewen Shi, Huiqing Lu, Ping Song, Lei Wang, Huimin Han, Xiuliang Yuan and Cong Wang, "Negative Thermal Expansion over a Wide Temperature Range in Fe-Doped MnNiGe Composites", } \textit{Frontiers in Chemistry}, 6, 15:1-9, (2018). 
\end{align*}\]


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Beihang University, Beijing (Wang, C. congwang@buaa.edu.cn)

88. Ying Sun, Xiuliang Yuan, Xingbin Tian, Suyang Zhao, Meimei Wu, Zhihao Wang, Pengwei Hu, Cong Wang*, “Controllable nearly zero thermal expansion behavior in Mn₃Zn₁₋ₓCrxN (0 ≤ x ≤ 0.20) compounds”, Scripta Materialia, 162, 108-111, (2019).


1. Publications in 2018

Shanghai Inst. of Ceramics, Chinese Academy of Sciences, Shanghai (Zhao, J.T. jtzhao1962@gmail.com)


• Qianli Li, Xiaolin Liu*, Mu Gu, Yahua Hu, Fengerui Li, Si Liu, Qiang Wu, Zhixiang Sun, Juannan Zhang, Shiming Huang, Zhijun Zhang, Jingtaï Zhao, “Development of ZnO-based nanorod arrays as scintillator layer for ultrafast and high-spatial-resolution X-ray imaging system”, OPTICS EXPRESS, 26(24), 31290, (2018).

• Yun-Ling Yang, Yu Zhou, Dong-Jie Pan, Zhi-Jun Zhang, Jing-Tai Zhao, “The luminescence properties of CaZnOS: Bi3+, Sm3+, Li+ phosphors with tunable emissions and energy transfer for white emission”, Journal of Luminescence, 10, 046, (2018).


1. Publications in 2018

**Shanghai Inst. of Ceramics, Chinese Academy of Sciences, Shanghai (Zhao, J.T. jtzhao1962@gmail.com)**


1. Publications in 2018

Shanghai Inst. of Ceramics, Chinese Academy of Sciences, Shanghai (Zhao, J.T. jtzhao1962@gmail.com)

102. H. Feng, J.Y. Chen, Z.J. Zhang, Y. Wang, Z. Xu, J.T. Zhao, R.H. Mao, Structure, “photoluminescence, and scintillation characteristics of a Gd1. 9Y0. 1SiO5: 0.5% Ce (GYSO: Ce) single crystal scintillator”, *Radiation Measurements*, 109, 8-12, (2018).


1. Publications in 2018

Beijing Institute of Technology, Beijing (Jingbo Li, lijb@bit.edu.cn)


1. Publications in 2018

Peking University, Beijing (Li, G.B. liguobao@pku.edu.cn)

111. Meng Zhang, Mahammad Asim Farid, Yan Wang, Jinglin Xie, Jinling Geng, Hao Zhang, Junliang Sun, Guobao Li, Fuhui Liao, Jianhua Lin, “Superconductivity in Perovskite Ba1-xLnxBi0.20Pb0.80O3-δ (Ln=La, Ce, Pr, Nd, Sm, Eu, Gd, Tb, Dy, Ho, Er, Tm, Yb, Lu)”, Inorg. Chem, 57, 1269-1276, (2018).


1. Publications in 2018

University of Science and Technology, Beijing (Du, Z.M. duzm@ustb.edu.cn)

determination and thermodynamic description of the Nb-V binary system”, Journal of Alloys and

• Yongxin Ruan, Changrong Li, Chengliang Xu, Cuiping Guo, Zhenmin Du, “Thermodynamic
assessment of Mg/Zr unary systems”, Computational Materials Science, 154(11), 355-364,
(2018).

• Chengliang Xu, Changrong Li, Cuiping Guo, Zhenmin Du, Daiman Zhu, Chenyang Zhou,

• Chenyang Zhou, Cuiping Guo, Changrong Li, Zhenmin Du, “Experimental determination and

• Bo Yang, Zeting Du, Cuiping Guo, Zhenmin Du, Changrong Li, “Experimental investigation of
1. Publications in 2018

University of Science and Technology, Beijing (Du, Z.M. duzm@ustb.edu.cn)


• Chenyang Zhou, Cuiping Guo, Changrong Li, Zhenmin Du, “Thermodynamic optimization of the Ni-Ta system supported by the key experiments”, *Thermochimica Acta*, 666(8), 135-147, (2018).


1. Publications in 2018

University of Science and Technology, Beijing (Du, Z.M. duzm@ustb.edu.cn)


1. Publications in 2018

Northeastern University, Shenyang (Qin, G.W. Qingw@smm.neu.edu.cn)

129. Yuping Ren, Hong Zhao, Liqing Wang, Bo Yang, Hongxiao Li, Shineng Sun, Hucheng Pan and Gaowu Qin, “Evidence of a novel intermetallic Mg7Ag3 phase in Mg–Ag binary alloy system”, *Journal of Applied Crystallography*, 51, 1-5, (2018).


1. Publications in 2018

Xiamen University, Xiamen (Liu, X.J. lxj@xmu.edu.cn)


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Xiamen University, Xiamen (Liu, X.J. lxj@xmu.edu.cn)


• Xingjun Liu, Yunwei Pan, Yuechao Chen, Jiajia Han, Shuiyuan Yang, Jingjing Ruan, Cuiping Wang*, Yuansheng Yang, Yingju Li, “Effects of Nb and W Additions on the Microstructures and Mechanical Properties of Novel $\gamma/\gamma'$ Co-V-Ti-Based Superalloys”, Metals, Vol.8, 563, (2018).


1. Publications in 2018

_Xiamen University, Xiamen (Liu, X.J. lxj@xmu.edu.cn)_


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2. List of members of Chinese Phase Diagram Committee (2017-2021)

Members of CPDC, Chinese Physical Society

Chairman: Zhou Huaiying (Guilin Univ. of Electron. Tech., Guilin)
2. List of members of Chinese Phase Diagram Committee

Members (Alphabetic order):

- Chu Maoyou, General Research Inst. for Nonferrous Metals, Beijing
- Cui Yuwen, Nanjing Univ, of Tech., Nanjing
- Dong Chuang, Dalian Univ. of Tech., Dalian
- Du Yong, Central South Univ., Changsha
- Du Zhenmin, Univ. of Sci. & Tech. Beijing, Beijing
- Jiang Min, Northeastern Univ., Shenyang
- Li Changrong, Univ. of Sci. & Tech. Beijing, Beijing
- Li Guobao, Peking Univ., Beijing
- Li Jingbo, Beijing Univ. of Tech., Beijing
- Li Junqin, Shenzhen Univ., Shenzhen
- Liu Huashan, Central South Univ., Changsha
- Liu Libin, Central South Univ., Changsha
- Liu Xingjun, Xiamen Univ., Xiamen
- Liu Yuqin, China Univ. Geosciences, Beijing
- Lu Xiaogang, Shanghai Univ., Shanghai
- Ouyang Yifang, Guangxi Univ., Nanning
- Qin Gaowu, Northeastern Univ., Shenyang
- Song Xiaoyan, Beijing Univ. of Tech., Beijing
- Su Xuping, Changzhou Univ., Changzhou
- Sun Lixian, Guilin Univ. of Electron. Tech., Guilin
- Wang Bowen, Hebei Univ. of Tech., Tianjin
- Wang Cong, Beihang Univ., Beijing
- Wang Cuiping, Xiamen Univ., Xiamen
- Xing Xianran, Univ. of Sci. & Tech. Beijing, Beijing
- Yan Jialin, Guangxi Univ., Nanning
- Yin Fucheng, Xiangtang Univ., Xiangtan
- Zhang Zhidong, Inst. of Metals, CAS, Shenyang
- Zhao Jingtai, Shanghai Univ., Shanghai
- Zhou Weiya, Inst. of Phys., CAS, Beijing

In total 30 members
3. Academic conferences of CPDC in 2018
3.1 18th National conference on phase diagrams

October 11-13, 2018, Dalian, China

More than 200 people attended the conference; 12 invited talks, 4 sessions and 90 oral presentations included.
3.2 2018 Annual Meeting of CPDC

May 10-13, 2018, Huaihua, China

More than 40 people attended the conference; 6 invited talks included.
3.3 Symposium on Alloy Thermodynamics & Materials Design of 2018

—— Celebrating for Prof. Hao Shiming's 80th birthday

April 20-22, 2018, Shenyang, China

More than 50 people attended the conference; 8 invited talks included.
3.4 Symposium on Materials Manufacturing Science and Industrialization (2018)

—— Celebrating for Prof. Jin Zhenpeng's 80th birthday

2018.11.02-2018.11.04, Changsha  90 Participants