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中国科学技术大学工学博士，副教授，硕士生导师。主要从事高效率铜铟镓硒薄膜太阳能电池的研究，致力于低成本铜铟镓硒薄膜太阳能电池的产业化发展；同时探索新型无机薄膜太阳能电池，如铜锌锡硫硒和硒化锑化合物薄膜太阳能等。目前，已经以第一作者或通讯作者身份在国际能源及材料领域期刊《Journal of Materials Chemistry A》、《Solar RRL》、《Journal of Power Sources》、《Solar Energy》等学术刊物上发表SCI论文10余篇。当前正在主持1项国家自然科学基金、1项福建省自然科学基金。

研究领域：

- ◆低成本法制备铜铟镓硒薄膜太阳能电池的研究；
- ◆新型无机薄膜太阳能电池：铜锌锡硫硒和硒化锑化合物薄膜太阳能；
- ◆柔性无机薄膜太阳能电池。

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欢迎对太阳能电池感兴趣的同学加入研究团队

代表性论文：

- 1.W.H. Wang, G.L. Chen\*, H.L. Cai, B.W. Chen, L.Q. Yao, M. Yang, S.Y. Chen, Z.G. Huang, The effects of SnS<sub>2</sub> secondary phases on Cu<sub>2</sub>ZnSnS<sub>4</sub> solar cells: a promising mechanical exfoliation method for its removal, *Journal of Materials Chemistry A*, 2018, 6(7): 2995-3004.
2. G. L. Chen, W.H. Wang, P. Y. Lin, H. L. Cai, B. W. Chen, X. J. Huang, J. M. Zhang, S. Y. Chen, Z. G. Huang, The effect of binary sulfides precursors with different value states on CZTS thin films, *Ceramics International*, 2018, 44, 18408–18412.
- 3.W.H. Wang, B.W. Chen, G.L. Chen\*, H.L. Cai, J.B. Dong, Y.P. Liao, S.Y. Chen, Z.G. Huang, A general oxide-based preparation strategy for Cu<sub>2</sub>MSnS<sub>4</sub> (M: Zn, Mn, Cd) thin films and relevant solar cells, *Materials Letters*, 2018, 214: 170-173.
- 4.W.H. Wang, H.L. Cai, G.L. Chen\*, B.W. Chen, L.Q. Yao, J.B. Dong, X.X. Yu, S.Y. Chen, Z.G. Huang, Preparation of Sn loss-free Cu<sub>2</sub>SnS<sub>3</sub> thin films by an oxide route for solar cell, *Journal of Alloys and Compounds*, 2018, 742: 860-867
- 5.G.L. Chen\*, W.H. Wang, B.Y. Zhang, S.Y. Chen, Z.G. Huang, B. Zhuang, Influence of selenization atmosphere on the Cu<sub>2</sub>ZnSn(S,Se)<sub>4</sub> thin films and its correlation to the performance of solar cells, *Materials Research Bulletin*, 2017, 94: 164-169.
- 6.G.L. Chen\*, W.H. Wang, S.Y. Chen, Z.Z. Whang, Z.G. Huang, B.Y. Zhang, X.K. Kong, Bandgap engineering of Cu<sub>2</sub>ZnSn<sub>1-x</sub>Ge<sub>x</sub>S(e)<sub>4</sub> by adjusting Sn-Ge ratios for almost full solar spectrum absorption, *Journal of Alloys and Compounds*, 2017, 718: 236-245.
- 7.W.H. Wang, G.H. Wang, G.L. Chen\*, S.Y. Chen, Z.G. Huang, The effect of sulfur vapor pressure on Cu<sub>2</sub>ZnSnS<sub>4</sub> thin film growth for solar cells, *Solar Energy*, 2017, 148: 12-16.
- 8.G.L. Chen\*, J.M. Li, S.Y. Chen, Z.G. Huang, M.J. Wu, J.F. Zhao, W.H. Wang, H.Q. Lin, C.F. Zhu, Low cost oxide-based deposition of Cu<sub>2</sub>FeSnS<sub>4</sub> thin films for photovoltaic absorbers, *Materials Chemistry and Physics*, 2017, 188: 95-99.
- 9.G.L. Chen\*, W.H. Wang, J. Zhang, S.Y. Chen, Z.G. Huang, R.K. Jian, Ultra-high sulfurization temperature drives the growth of oxide-derived Cu<sub>2</sub>ZnSnS<sub>4</sub> thin film with very large grain, *Journal of Renewable and Sustainable Energy*, 2017, 9: 013501.
- 10.G.L. Chen\*, W.H. Wang, J. Zhang, S.Y. Chen, Z.G. Huang, Formation mechanism of secondary phases in Cu<sub>2</sub>ZnSnS<sub>4</sub> growth under different copper content , *Materials Letters*, 2017, 186: 98-101.

- 11.M.J. Wu, G.L. Chen\*, X.P. Wu, J.F. Zhao, L.M. Lin, J.Y. Liu, W.H. Wang, F.C. Lai, Sulfurization and post-selenization of oxides precursors for high quality CuIn(S,Se)<sub>2</sub> thin films, Materials Science in Semiconductor Processing, 2016, 48: 33-38.
- 12.G.L. Chen\*, C.C. Yuan, J.W. Liu, Z.G Huang, S.Y Chen, W.F. Liu, G.S. Jiang, C.F. Zhu, Fabrication of Cu<sub>2</sub>ZnSnS<sub>4</sub> thin films using oxides nanoparticles ink for solar cell, Journal of Power Sources, 2015, 276: 145-152.
- 13.G.L. Chen\*, J.L. Li, M.J. Wu, J.Y. Liu, F.C. Lai, C.F. Zhu, Effect of post sulfurization temperature on the microstructure of Cu<sub>2</sub>ZnSn(S,Se)<sub>4</sub> thin film, Materials Letters , 2015, 159: 32-34.
- 14.G.L. Chen, C.C. Yuan, J.W. Liu, Y.W. Deng, W.F. Liu, G.S. Jiang, C.F. Zhu\*, Low cost preparation of Cu<sub>2</sub>ZnSnS<sub>4</sub> and Cu<sub>2</sub>ZnSn(S<sub>x</sub>Se<sub>1-x</sub>)<sub>4</sub> from binary sulfide nanoparticles for solar cell, Journal of Powers Sources, 2014, 262: 201-206.
- 15.G.L. Chen, B. Pan., L.J., G.S. Jiang, W.F. Liu, C.F. Zhu\*, Compression for smoothing and densifying CuInSe<sub>2</sub> and Cu<sub>2</sub>ZnSnSe<sub>4</sub> thin films coating from oxides nanoparticles precursor, Journal of Alloys and Compounds, 2014, 610: 20-26
- 16.G.L. Chen, W.F. Liu, G.S. Jiang, B. Pan, C.F. Zhu\*, Effect of compact structure on the phase transition in the oxides derived Cu<sub>2</sub>ZnSnSe<sub>4</sub> thin films, Solar Energy, 2013, 92: 172-175.
- 17.G.L. Chen, G.S. Jiang, W.F. Liu, X.Z. Chen, C.F. Zhu\*, Solvent-free synthesis of oxides for CuInSe<sub>2</sub> thin films fabrication, Applied Surface Science, 2012, 258: 3428-3432.
- 18.G.L. Chen, W.F. Liu, G.S. Jiang, J. Li, C.F. Zhu\*, Synthesis of CuInSe<sub>2</sub> thin film by a hydroxides-based deposition process, Journal of Alloys and Compounds, 2012, 531: 91-95.