Shyan-Lung Chung 教授
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Research Interests:

RESEARCH INTERESTS

- Microwave Sintering of Nitride Ceramics.
- Microwave-Combustion synthesis of high performance nanomaterials.
- Combustion synthesis of nitride ceramic powders (e.g., AlN, Si_3N_4, BN and TiN).
- Surface Modification of Ceramic Powders.
- Applications of the combustion-synthesized AlN powder (e.g., EMC for semiconductors, substrates for electronics and high-thermally conductive composite materials).
- Synthesis of photocatalyst powder and its applications.
- Synthesis of Si_3N_4 powder for application as high-temperature reaction catalyst support.
- Sythesis of phosphor powder and its application.

n PATENTS GRANTED

1.Shyan-Lung Chung and Wei-Chang Lee, “Method for Producing Nitride Ceramic Powders”, ROC and US Patents. (ROC Patent No. 67194, 7/21/1994-8/4/2013, U.S. Patent No. 5,453,407, 9/26/1995-2/14/2014).

2.Shyan-Lung Chung, “Method for Fabrication of AlN Whisker”, ROC Patent No.67214,8/1/1994-7/26/2013.

3.Shyan-Lung Chung and Wen-Liang Yu, “Method for Preparing Aluminum Nitride Powders”, ROC and US Patents, (ROC Patent No. 121246, 10/1/2000-3/10/2017; US patent No. 5,846,508,12/8/1998-5/9/2017).

4.Shyan-Lung Chung and Wen-Liang Yu, “Method for Production of AlN Powder”, ROC Patent

No. 133194, 5/16/2001-11/23/2017; and US patents in pending.

5.Shyan-Lung Chung and Jan-Ming Soon, "Method for Manufacturing Functionally Gradient Materials", ROC Patents No. 144007, 10/21/2001-4/29/2018; and US Patent No. 6019936, 2/1/2000-4/30/2019.

6.Shyan-Lung Chung, Chun-Nan Lin and Jan-Shiou Lin, "Method for Synthesis of Aluminum Nitride", ROC Patent No. 146066, 12/1/2001-2/21/2020,US Patent NO. 6,482,384B1, 11/19/2002-11/13/2020

7. Shyan-Lung Chung, " Methods for Surface Modification of Aluminum Nitride Powders", ROC and US patents in pending.

8. Shyan-Lung Chung, Chun-Nan Lin and Jen-Chuan Chen, "Method and Apparatus for Preparing Aluminum Nitride", ROC patent granted,中華民國 94 年 1 月 14 日(94)智專=(六)01123 字第 09420053290 號(公告中).

n SELECTED PUBLICATIONS

1. Chun-Nan Lin and Shyan-Lung Chung, 2004, "A Combustion Synthesis Method for Synthesis of Aluminum Nitride Powder Using Aluminum Containers (II)" Journal of Materials Research, 19(10):3037-3045, 2004.

2. Chun-Nan Lin, Cheng-Yu Hsieh, Shyan-Lung Chung, Jiping Cheng and Dinesh Agrawal, 2004,"Combustion Synthesis of AIN Powder and its Sintering Proprties", International Journal of Self-Propagating High Temperature Synthesis，13(2):93-106, 2004.

3. Chyi-Ching Hwang and Shyan-Lung Chung, 2004 "A Study of Combustion Synthesis Reaction in the Ti+C/Ti+A1 System"，Journal of Material Science，39（6）：2073-2080,2004.

4. Chung-Yu Hsieh, Chun-Nan Lin, Hung-Jia Chen, and Shyan-Lung Chung, Jiping Cheng and Dinesh K. Agrawal, 2003, "Microwave Sintering of A Combustion Synthesized AIN Powder", Microwave and Radio Frequency Applications, edited by Diane C.Folz et al. PP.221-230，2003.

5. Chung-Nan Lin, Cheng-Yu Hsieh, Shi-Lieung Liu, and Shyan-Lung Chung, 2003. "Synthesis and Applications of Aluminum Nitride" Chemical Engineering Technology, 127: 170-178, 2003.

6. Chun-Nan Lin, Cheng-Yu Hsieh, Shi-Lieung Liu, and Shyan-Lung Chung, 2003, "Properties and Applications of a Combustion Synthesized AlN Powder", Bulletin of the Chinese Ceramic Society, 21 (3):56-60, 2003.

7. Cheng-Yu Hsieh, Chun-Nan Lin, Hung-Jia Chen, Shyan-Lung Chung, Jiping Cheng and Dinesh K. Agrawal, 2002, "Microwave Sintering of a Combustion synthesized AlN Powder", J. Chin. Inst. Chem.Engrs, Festschrift issue in honor of Professor Jer-Ru Maa. 33(6):621-629(2002)

8.Chyi-Ching Hwang and Shyan-Lung Chung, 2002, " Combustion Synthesis in the Ti＋C/Ti＋Al System-Influence of Reactant Composition", J. Mater. Science Letters, 21: 447-450, 2002