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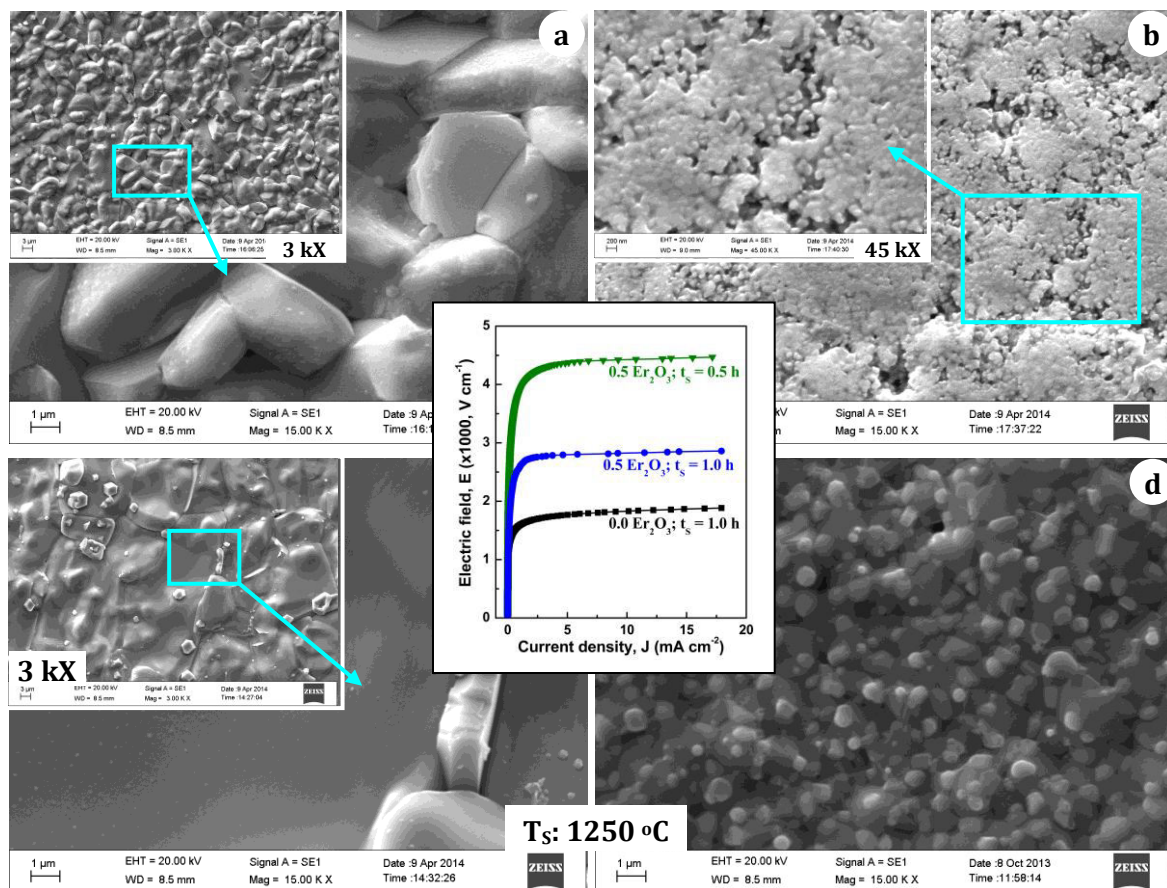
Research Area :

Processing-Microstructure-Property Relationships of Er_2O_3 added ZnO Based Varistors



Highlights of Research:

- Develops high performance ZnO based varistor by grain refinement
- Establishes the process-microstructure-property of rare earth modified varistor
- Demonstrated that small amount of Er_2O_3 addition reduces the grain size by over an order of magnitude
- Aims to achieve comprehensive understanding related to the role of grain size of ZnO on electrical and Fracture toughness



- [1] Samarpita Roy, Debdulal Das, Tapatee Kundu Roy, "Influence of Er_2O_3 addition on densification and microstructure of ball milled ZnO based varistor ceramics", *Ceramics International* (Under review).
- [2] Samarpita Roy, Tapatee Kundu Roy, Debdulal Das, "Characteristics of Er_2O_3 Added ZnO-Based Varistor Ceramics", *Materials Science Forum* (2016) Vol.880, pp 105-109.
- [3] Samarpita Roy, Tapatee Kundu Roy, Debdulal Das, "Development of High Performance ZnO Based Varistor" *Proceedings of Research scholar colloquium* (2016), pp161-162 ISBN:978-93-80813-44-8.
- [4] Samarpita Roy, Tapatee Kundu Roy, Debdulal Das, "Sintering of Nanocrystalline Multicomponent Zinc Oxide Varistor Powders Prepared by Ball Milling", *Materials Today: Proceedings* (accepted).