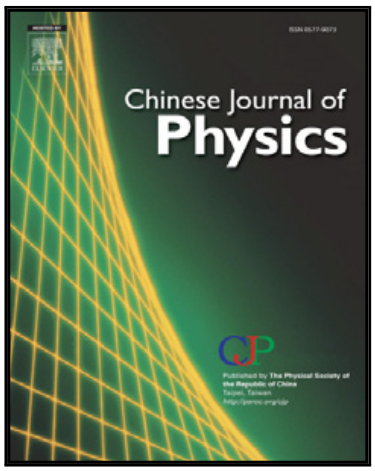


# Effects of $Ag_2O$ nanoparticles addition on electrical conductivity and microhardness properties of polycrystalline $YBa_2Cu_3O_{7-\delta}$

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PII: S0577-9073(17)30670-6
DOI: 10.1016/j.cjph.2017.08.012
Reference: CJPH 320

To appear in: *Chinese Journal of Physics*

Received date: 30 May 2017
Revised date: 31 July 2017
Accepted date: 10 August 2017

Please cite this article as: Mohd Shahadan Mohd Suan , Nurulhawa Ali Hasim , Mohd Edeerozey Abd Manaf , Mohd Rafie Johan , Effects of $Ag_2O$ nanoparticles addition on electrical conductivity and microhardness properties of polycrystalline $YBa_2Cu_3O_{7-\delta}$, *Chinese Journal of Physics* (2017), doi: 10.1016/j.cjph.2017.08.012

**Highlights**

- The $Ag_2O$ and $YBa_2Cu_3O_{7-\delta}$ nanoparticles are mixed via solid state reaction.
- The Ag has incorporated in $YBa_2Cu_3O_{7-\delta}$ structure for samples with > 3.0 wt. % $Ag_2O$.
- Additions of $Ag_2O$ has improved the RT electrical conductivity of the samples.
- $T_C$ of the ≤ 3.0 wt. % $Ag_2O$ added samples is slightly exceeded the pure $YBa_2Cu_3O_{7-\delta}$.
- Microhardness of the samples is reduced due to agglomeration of $Ag_2O$.