

### Grinding effect of $\text{Al}_2\text{O}_3$ with carbon nanotube by planetary ball mill

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The effects of grinding of  $\text{Al}_2\text{O}_3$  was carried out by planetary ball mill when carbon nanotube was added as additive to investigate how the two material affect each other according to the rotation speeds. For grinding media ball,  $\text{Ø}3$  mm zirconia ball was used and its rotation speed were 100, 200, 300, 400, 500 rpm. To compare the results of grinding of combination of  $\text{Al}_2\text{O}_3$  and carbon nanotube, grinding of  $\text{Al}_2\text{O}_3$  and carbon nanotube were done as well respectively. The grinding of carbon nanotube showed that the size were decreased on mill's rotation speeds and there seems that some carbon nanotube was coated on the surface of  $\text{Al}_2\text{O}_3$  on the combination grinding and with XRD measurment, the grinded  $\text{Al}_2\text{O}_3$  has changed to be some amorphous.