

# Electronic structure and magnetic properties of $\text{Gd}_3\text{Cu}_3\text{Sb}_4$ .

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In this presentation we show the results of electronic structure calculations for  $\text{Gd}_3\text{Cu}_3\text{Sb}_4$ , where we suspected non-collinear magnetic structure. Such non-collinear structure was earlier reported for analogue compound  $\text{Ce}_3\text{Cu}_3\text{Sb}_4$ . We also show the results of X-ray photoelectron spectroscopy measurements and compare them with results of our calculations. Our magnetization and magnetic susceptibility measurements are also interpreted on the basis of our calculation results. We found that this compound exhibits complex antiferromagnetic order below 51 K.