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**Metal doping effects on the skyrmion  $\text{Cu}_2\text{OSeO}_3$**  DA-YE CHEN, KUO-FENG TSENG, CHIH-CHIEH CHOU, SUDIP MUKHERJEE, Department of Physics, National Sun Yat-Sen University, Kaohsiung 804, Taiwan, JIM-LONG HER, Institute for Solid State Physics, University of Tokyo, Tokyo, Japan, HELMUTH BERGER, Institutes of Physics of Complex Matter, Ecole Polytechnique Federale de Lausanne(EPFL),CH-1015 Lausanne,Switzerland, HUNG-DUEN YANG, Department of Physics, National Sun Yat-Sen University, Kaohsiung 804, Taiwan — There is a considerable research interest in skyrmion whose magnetic properties have a remarkable characteristic as a vortex-like spin orientation. Recently, neutron scattering and Lorentz transmission electron microscopy measurements showed that  $\text{Cu}_2\text{OSeO}_3$  exists a skyrmion state. We have doped transition metals (Fe, Mn, V) in  $\text{Cu}_2\text{OSeO}_3$  and measured dc magnetization and ac susceptibility by scanning magnetic field. The Fe and Mn doping effect on the A phase in T-H phase diagrams of  $\text{Cu}_2\text{OSeO}_3$  has been studied. Interestingly, the doping with V is different from that with Fe and Mn. The physical significance for metal doping on the skyrmion  $\text{Cu}_2\text{OSeO}_3$  will be discussed.

Hung-Duen Yang  
Department of Physics, National Sun Yat-Sen University,  
Kaohsiung 804, Taiwan

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