

Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Study of magnetic and magnetocaloric properties of monoclinic and triclinic spin chain CoV_2O_6 MOUMITA NANDI, PRABHAT MANDAL, Saha Institute of Nuclear Physics, 1/AF Bidhannagar Kolkata, India — We have investigated magnetic and magnetocaloric properties of both monoclinic and triclinic phases of CoV_2O_6 from magnetization and heat capacity measurements. Conventional and inverse magnetocaloric effects have been observed in both phases of CoV_2O_6 . For a field change from 0 to 7 T, maximum values of magnetic entropy change and adiabatic temperature change reach $11.8 \text{ J kg}^{-1} \text{ K}^{-1}$ and 9.5 K respectively for monoclinic CoV_2O_6 while the corresponding values reach $12.1 \text{ J kg}^{-1} \text{ K}^{-1}$ and 13.1 K for triclinic CoV_2O_6 . Particularly for triclinic CoV_2O_6 , the magnetocaloric parameters are quite large in low or moderate field range. Apart from this, we have constructed magnetic phase diagram of monoclinic CoV_2O_6 where field-induced complex magnetic phases appear below a certain critical temperature 6 K when external magnetic field is applied along crystallographic easy axis.

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Date submitted: 06 Nov 2015

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