

Abstract Submitted  
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**Specific heat and magnetocaloric effect of the  $S=1/2$  spin-ladder compound  $(\text{CH}_3)_2\text{CHNH}_3\text{CuCl}_3$**  YOUNGHAK KIM, YASUO YOSHIDA, YASUMASA TAKANO, University of Florida, HIROYUKY TSUJII, Kanazawa University, KEISHI KANADA, TAKEHIRO SAITO, AKIRA OOSAWA, TAKAYUKI GOTO, Sophia University —  $(\text{CH}_3)_2\text{CHNH}_3\text{CuCl}_3$  is the best laboratory model for the  $S=1/2$  spin ladder comprising ferromagnetic rungs and antiferromagnetic legs [1]. We have determined the magnetic phase diagram of this compound in fields up to 18 T by means of specific-heat and magnetocaloric-effect measurements for two crystal orientations, with either the so-called  $B$  or  $C$  plane perpendicular to the field direction. For both orientations, we find power-law dependences of the critical field of the long-range antiferromagnetic order on temperature, behavior indicative of the Bose-Einstein condensation of spin triplets due to the cancellation of the energy gap by the magnetic field. [1] T. Masuda *et al.*, *Phy. Rev. Lett.* **96**, 047210 (2006).

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