

# **$^1\text{H}$ , $^2\text{H}$ and $^{13}\text{C}$ NMR Studies of Cation Dynamics in a Layered Perovskite-Type Incommensurate Compound $(n\text{-C}_3\text{H}_7\text{NH}_3)_2\text{CdCl}_4$**

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Z. Naturforsch. **57 a**, 451–455 (2002); received December 17, 2001

*Presented at the XVIth International Symposium on Nuclear Quadrupole Interactions,  
Hiroshima, Japan, September 9-14, 2001.*

Cation dynamics in  $(n\text{-C}_3\text{H}_7\text{NH}_3)_2\text{CdCl}_4$  and  $(n\text{-C}_3\text{H}_7\text{ND}_3)_2\text{CdCl}_4$  were investigated by  $^1\text{H}$ ,  $^2\text{H}$ , and  $^{13}\text{C}$  NMR measurements. An overall motion of the cation being associated with the fluctuation of the molecular axis is suggested to be activated with increasing temperature. The cationic motion is enhanced at the counter side of the  $\text{-NH}_3^+$  group probably because the group is bound with the inorganic layer through the N-H...Cl hydrogen bonds.

*Key words:*  $^1\text{H}$  NMR  $T_1$ ;  $^2\text{H}$  NMR Spectra;  $^{13}\text{C}$  MAS NMR  $T_1$ ; Cation Dynamics; Phase Transition.