

## Carrier doping dependence of the $T_c$ in double perovskite $\text{Sr}_2\text{FeMoO}_6$

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Carrier doping effects on the Curie temperature  $T_c$  of double perovskite  $\text{Sr}_2\text{FeMoO}_6$  have been studied along the series polycrystalline  $\text{Sr}_{2-x}\text{A}_x\text{FeMoO}_6$  ( $A = \text{Ba}$  and  $\text{K}$ ) samples. The partial substitution of  $\text{K}^+$  for  $\text{Sr}^{2+}$  considerably reduces the  $T_c$  from 399 K for  $x = 0$  to 352 K for  $x = 0.2$  with cell volume increasing. This decrease of  $T_c$  with  $\text{K}^+$  doping originates from carrier doping effects in addition to ionic size ones.