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Phase separation in magnetic spinels induced by Jahn-Teller distortions SUNMOG YEO, CHENGLIN ZHANG, Rutgers Center for Emergent Materials and Department of Physics & Astronomy, Rutgers University, Piscataway, New Jersey 08854, YOICHI HORIBE, Dept. of Physics, Osaka Prefecture Univ.1-1 Gakuen-cho, Sakai, Osaka 599-8531, Japan, SABYA GUHA, SANG-WOOK CHEONG, Rutgers Center for Emergent Materials and Department of Physics & Astronomy, Rutgers University, Piscataway, New Jersey 08854 — We found a strong tendency of chemical/structural phase separation in spinels with Jahn-Teller ions, and this phase separation and the associated microstructure are sensitive on how specimens are cooled down from high temperatures. From our comprehensive study of magnetic and structural properties of magnetic spinels with Jahn-Teller ions with various cooling rates, we have found close relationship between bulk magnetic properties and microstructure.

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