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## **【636】 Tuning magnetic spirals beyond room temperature with chemical disorder**

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In the past years, magnetism-driven ferroelectricity has been reported in a number of frustrated magnets with spiral magnetic orders. Such materials are of high current interest due to their potential for spintronics and low-power magnetoelectric devices. However, their low magnetic order temperatures (typically  $<100\text{K}$ ) restrict their fields of application.

In this talk I will show that chemical disorder is a powerful tool that can be used to stabilize magnetic spiral phases at higher temperatures. As example of this novel mechanism I will present our recent investigations on  $\text{YBaCuFeO}_5$ , where a controlled manipulation of the Cu/Fe chemical disorder was successfully used to increase the spiral order temperature from 154 to 310K.

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