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High-pressure NMR Study of Magnetism and Superconductivity on FeSe Single Crystals WEIQIANG YU, PENGSHUAI WANG, WENHUA SONG, SHANSHAN SUN, YI CUI, TIANRUN LI, PING ZHOU, HECHANG LEI, Department of Physics, Renmin University of China, Beijing 100872, China — Bulk FeSe has a structure transition at $T \sim 91$ K and a superconducting transition at $T \sim 9.3$ K, but no magnetic ordering at the ambient pressure. With increasing pressure, the structure transition is suppressed, whereas a magnetic ordering emerges. This is in contrast to most iron arsenides, where the structure transition is usually accompanied by a stripe magnetic ordering. Here we report our high-pressure NMR study on high-quality FeSe single crystals. The spin fluctuations and the magnetic ordering observed by our measurements give fresh information for understanding the interplay among the structure transition, the superconductivity and the magnetism in bulk FeSe materials.

Weiqliang Yu
Department of Physics, Renmin University of China, Beijing 100872

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