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Magnetic correlations in the spin-glassy phase of $Fe_{1+\delta}$(Se,Te)
NAOYUKI KATAYAMA, SUNGDAE JI, SEUNGHUN LEE, University of Virginia, MASAKI FUJITA, Tohoku University, JINSHENG WEN, ZHIJUN XU, GUANGYONG XU, GENDA GU, Brookhaven National Laboratory, TAKU SATO, University of Tokyo, SUNG CHANG, NCNR, KAZUTISHI YAMADA, Tohoku University, JOHN TRANQUADA, Brookhaven National Laboratory, UNIVERSITY OF VIRGINIA TEAM, TOHOKU UNIVERISITY TEAM, BROOKHAVEN NATIONAL LABORATORY TEAM, ISSP COLLABORATION, NCNR COLLABORATION
— Using elastic and inelastic neutron scattering techniques, we investigated magnetic correlations in $Fe_{1.02}Se_{0.3}Te_{0.7}$ and $Fe_{1.01}Se_{0.15}Te_{0.85}$, both of which exhibit spin-glassy (SG) behaviors at low temperatures. Below the phase transition temperature, T_{SG}, magnetic Bragg peaks appear at incommensurate wavevector ($\mathbf{Q}_m$) positions with $\mathbf{Q}_m$ = (0.46, 0, 0.50). The peaks are broader than the instrumental resolution, indicating short range magnetic ordering. Above T_{SG}, strong short range magnetic fluctuations exist around $\mathbf{Q}_m$ = (0.46, 0, 0.50). The fluctuations have very weak L-dependence, indicating the good two-dimensionality of the magnetic correlations. The location of $\mathbf{Q}_m$ contrasts with the characteristic wave vector, (0.5,0.5,L), of the magnetic fluctuations observed in the superconducting phase of Fe_{1+d}(Se,Te).

Naoyuki Katayama
University of Virginia

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