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**Finite-temperature scaling at the quantum critical point of the Ising chain in a transverse field** MANUEL HAELG, Neutron Scattering and Magnetism, Laboratory for Solid State Physics, ETH Zurich, 8006 Zurich, Switzerland, DAN HUVONEN, National Institute of Chemical Physics and Biophysics, 12618 Tallinn, Estonia, TATIANA GUIDI, ISIS Facility, Rutherford Appleton Laboratory, Chilton, Didcot, Oxon OX11 0QX, United Kingdom, DIANA LUCIA QUINTERO-CASTRO, Helmholtz-Zentrum Berlin fuer Materialien und Energie, D-14109 Berlin, Germany, MARTIN BOEHM, LOUIS-PIERRE REGNAULT, Institut Laue-Langevin, BP 156, 38042 Grenoble, Cedex 9, France, ANDREY ZHELUDEV, Neutron Scattering and Magnetism, Laboratory for Solid State Physics, ETH Zurich, 8006 Zurich, Switzerland — Inelastic neutron scattering is used to study the finite-temperature scaling behavior of spin correlations at the quantum critical point in an experimental realization of the one-dimensional Ising model in a transverse field. The target compound is the well-characterized, anisotropic and bond-alternating Heisenberg spin-1 chain material NTENP. The validity and the limitations of the dynamic structure factor scaling are tested, discussed and compared to theoretical predictions. For this purpose neutron data have been collected on the three-axes spectrometers IN14 at ILL and FLEXX at HZB as well as on the time of flight multi-chopper spectrometer LET at ISIS. In addition to the general statement about quantum criticality and universality, present study also reveals new insight into the properties of the spin chain compound NTENP in particular.

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