Study of the de Almeida-Thouless line using power-law diluted one-dimensional Heisenberg spin glasses\textsuperscript{1} AUDITYA SHARMA, PETER YOUNG, University of California at Santa Cruz — In a recent study, we showed that in mean-field theory, there is a de Almeida-Thouless (AT) line, that separates the low-temperature, low-field spin-glass phase from a high-temperature, high-field paramagnetic phase, for arbitrary \( m \)-component vector spin glasses, provided one applies a magnetic field that is \textit{random in direction}. Building on this piece of work, here, we investigate whether or not there is an AT line beyond mean-field theory for Heisenberg spin glasses by performing Monte Carlo simulations on a power-law diluted one-dimensional Heisenberg spin glass for very large system sizes.

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