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Pyrochlore: Radiation-damage and thermally induced structural reorganization

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The effect of step-wise thermally induced annealing on the mechanical properties (i.e., E Modulus and hardness), as well as on the short range order, determined by Raman and photoluminescence spectroscopy, of radiation-damaged pyrochlore ($A_2B_2X_6Y$) will be presented. While, the structural amorphization and subsequent reorganization process can be described by means of percolation theory, the latter shows avalanche behavior.

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