Defects in the quantum Hall stripe state at finite temperature:
possible topological transitions to the isotropic state

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We study topological transitions from the quantum Hall crystal stripe
phase to an isotropic metallic state in high Landau levels of 2D electron
systems, where the crystal stripe can be viewed as an anisotropic Wigner
crystal. Using elasticity theory, we show that an anisotropic Wigner
crystal undergoes a dislocation unbinding transition into an anisotropic
hexatic phase. This nematic-like phase is characterized by quasi-long
ranged orientational order, and in turn undergoes a disclination
unbinding transition into an isotropic metallic state. Other possible
scenarios for the transition from the stripe to the isotropic phase will
be briefly discussed.