RANDOM CURVES, SCALING LIMITS AND LOEWNER EVOLUTIONS

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ABSTRACT. Random curves arise naturally as interfaces in the 2D statistical physics and its lattice models. A general strategy to prove the convergence of a random discrete curve, as the lattice mesh goes to zero, is first to establish precompactness of the law giving the existence of subsequential scaling limits and then to prove the uniqueness. In this talk, I will introduce a sufficient condition that guarantees the precompactness and also that the limits are Loewner evolutions, i.e. they correspond to continuous Loewner driving processes. This framework of estimates is applicable in almost all proofs aiming to establish that an interface converges to a Schramm-Loewner evolution (SLE). In principle, it can be applied beyond SLE.

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