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Evolution of cosmic strings VITALY VANCHURIN, Tufts University — We investigate the evolution of cosmic strings network in flat space. We give a dynamical argument that the structures on infinite strings should obey a scaling law. We perform a simulation of the network which uses functional forms for the string position and thus is exact to the limits of computer arithmetic. Our results confirm that the wiggles on the strings obey a scaling law with equal power per logarithmic interval of wavelength up to a cutoff that scales with the simulation time. The average distance between long strings also scales accurately with the time. We also discuss the questions of loop production and fragmentation, and the evolution of strings with intercommutation probabilities $p < 1$.

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