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## STUDY OF TRANSITIONAL FLOWS IN ROUGH WALLS CHANNEL FLOWS

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The laminar-turbulent transition in wall bounded shear flows exhibits a complex spatio-temporal scenario. Despite many efforts, a detailed understanding of the interaction among the scales excited at the onset of turbulence remains elusive. Here, we report direct numerical simulations of transitional three dimensional channel flows using the Entropic Lattice Boltzmann Method. We investigate the stability of localized turbulent patches (puffs) under noisy perturbations induced by wall irregular geometry. We study the effects of both amplitude and spatial distributions of wall roughness on the puff decaying-splitting processes.