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Weak Harnack inequality for the Boltzmann equation without cut-off

In this talk we present a weak Harnack inequality and Hölder estimates for a large class of kinetic integro-differential equations. We explain that the Boltzmann equation without cut-off can be written in this form and satisfies our assumptions provided that the mass density is bounded away from vacuum and mass, energy and entropy densities are bounded above. As a consequence, we explain how to derive a local Hölder estimate and a quantitative lower bound for solutions of the (inhomogeneous) Boltzmann equation without cut-off.