Ricardo J. Alonso, Irene M. Gamba, Nataša Pavlović and Maja Tasković*
(mtaskovic@math.utexas.edu), The University of Texas at Austin, Mathematics Dept, RLM 8.100, 2515 Speedway Stop C1200, Austin, TX 78712-1202. On summability of moments for the Boltzmann equation without Grad’s cutoff.

We consider the spatially homogeneous Boltzmann equation without the Grad’s cutoff assumption in the case of variable hard potentials, and study the behavior of its exponential moments of order $s \in (0, 2)$. We provide a new proof of the generation of exponential moments of order up to the rate of potentials ($\gamma$). To examine the behavior of exponential moments of order beyond $\gamma$, we introduce Mittag-Leffler moments - a generalization of the exponential moments. The propagation of Mittag-Leffler moments of order $s \in (\gamma, 1]$ is proved under the full non-cutoff assumption. The propagation of Mittag-Leffler moments of order $s \in (1, 2)$ is proved under a modified non-cutoff assumption.

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