

Abstract Submitted  
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**Experimental investigation on collisionless heating in a finite size inductively coupled plasma** SEULI GU, Department of Nanoscale Semiconductor Engineering, Hanyang University, HYUN-JU KANG, YU-SIN KIM, YOON-MIN CHANG, Department of Electrical Engineering, Hanyang University, DEUK-CHUL KWON, Plasma Technology Research Center, National Fusion Research Institute, CHIN-WOOK CHUNG, Department of Electrical Engineering, Hanyang University — The electron energy probability functions (EETFs) were measured in low pressure and planar-type inductively coupled plasma at various chamber heights. The plateau on the EETFs was observed and the corresponding energy region was shifted to higher energy region with increasing chamber height. Since the electron mean free path is larger than the discharge gap length, the plateau shifting could be understood by an effect of collisionless electron heating. From calculated energy diffusion coefficient, a possible heating mechanism is the electron bounce resonance.

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