In LHD, tangential and perpendicular NBI have been installed and applied to experiments such as High-$T_i$ experiments [1]. High-$T_i$ plasma is obtained during the decay phase of the density after rapid increase due to a carbon pellet injection. In order to analyze the transport property in these time development plasmas, we have to use beam deposition code including the effect of plasma time development.

In this study we perform time-dependent NBI heating simulation of the time development plasmas in LHD using GNET-TD code, a modified version of GNET code [2]. We take into account the time development of the plasma density and temperature during the slowing-down of beam ions. Experimental data of the plasma density, temperature, and NBI heating is used as the input to GNET-TD. Furthermore, we perform a time-dependent heat transport simulation using the integrated transport code, TASK3D [3], in a combination with GNET-TD. We also compare the simulation results using several transport models.