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Size constraint of Ganymedean metallic core from condition of driving a dynamo activity

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Jovian icy satellite Ganymede has a strong intrinsic magnetic field which is considered to be originated by self-excited dynamo activity in the metallic core. However internal structure of Ganymede, especially the size and composition of metallic core, has been poorly constrained only due to the moment of inertia. We performed numerical simulations about the thermal history of Ganymede with various size and composition of the core, and evaluated the temperature and the heat flux through the core-rocky mantle boundary. Based on the condition that the dynamo activity is driven, the size and composition of metallic core of Ganymede is constrained.