Evidence for a stellar encounter on the orbital distribution of Edgeworth-Kuiper belt objects.

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We investigate the effect of gas drag in proto-planetary nebula on a body with large eccentricity or inclination through analytical method. In the case that a body has small eccentricity and inclination, Adachi et al. (1976) derive the change in seme-major axis, eccentricity, and inclination of a body caused by the gas drag through analytical method.We connected our equations in the case of large eccentricity or inclination with the equations in small eccentricity and inclination and had the new equations for any eccentricity and any inclination. Using these new equations, we investigated the orbital evolution of Kuiper belt objects (here after KBOs) in the gas disk. We show that the orbital elements of KBOs is explained by considering the effect of gas drag.