



## **The color variations of KBOs**

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Collision impact processes have important effects on the surface structured color distribution of the KBOs via cratering and gardening. We use the most recent published data to study the possible correlation between the color (i.e. V-R) and orbital parameters (i.e.  $a$ ,  $e$ ,  $i$ ). In addition, we compare the effective relative velocities and collisional probabilities of KBOs to the color variation. A certain dependence of the surface color on the collision time scale can be found from our quantitative calculation. We will also examine the scenarios of mutual collisions among KBOs and the surface impact effect of KBOs with dust in the Kuiper Belt. The latter mechanism could probably provide a more uniform resurface mechanism.