The distribution of temperature in an active region of comets with CO, CO_2 and H_2O ice

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The temperature regime of an active region considered as a conical and trench hole in the surface dust layer on a cometary nucleus is calculated. The temperature is defined from the geometrical parametrs of the active region separately for CO, CO_2 and H_2O ice bottom and dust walls. The crater structure is a good concentrator of the solar radiation. The effect of amplification of sublimation from such an active region is considered for different heliocentric distances. The heat conductivity along the dust walls was neglected, because the direct radiation heating from hot dust walls is more effective by a factor $\sim 10^{-4}$. The result of calculation shows that even minimal heating of the side-walls of the crater gives the infrared flux onto its bottom that increases the flux of sublimate from the bottom of the crater.