

## Concentration of dust aggregates at the snow line

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Planetesimal formation process is still an important, unresolved problem in planetary formation. There are two major problem in the planetesimal formation. One is the large impact velocity induced by radial drift of dust aggregate. This might lead to fragmentation of aggregates. The other is decrease of solid mass due to the radial drift. Here I propose a new scenario of planetesimal formation, focusing the sublimation of H<sub>2</sub>O ice from infalling dust aggregates.

The temperature of a dust aggregate increases as it infalls. The temperature increase causes the sublimation of H<sub>2</sub>O ice from an icy dust aggregate. The sublimation of the H<sub>2</sub>O ice produces a bump of gas pressure distribution. Around the bump, the pressure gradient changes its sign, and the infalling of a dust aggregate stops. Then the number density of the aggregates increases, and relative impact velocity between aggregates decreases. I show that planetesimals are formed quite quickly due to the concentration of the dust aggregates.

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