Properties of solitons for
the inverse mean curvature flow

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Inverse mean curvature flow have been extensively studied as a geometric flow and for applications to prove several geometric inequalities. Analyzing special solutions of types of geometric flow is helpful to understand and apply solutions of those, and so does the inverse mean curvature flow. In this talk, we concern the homothetic and translating solitons for the inverse mean curvature flow that are self-similar solutions deformed by only homothety and translation under the flow, respectively. We have several examples of the solitons and properties. To be specific, several examples for geometric constructions that are rotationally symmetric hypersurface, ruled surface and helicoidal surface are given. The incompleteness of the homothetic soliton for $C < 1/n$ and the translating soliton, and their area growth are proved.