Modeling the dustosphere of AGB stars

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Dust formation is a common phenomenon in a variety of stellar environments. The formation of dust takes place very close or even inside the stellar atmosphere, triggered by stellar pulsation. The transition region between the stellar atmosphere and the ircumstellar envelope is not very well-defined. It is strongly influenced by the transport properties of newly formed dust grains, e.g. via radiation pressure or backwarming.

The intrinsic difficulties to put the dust generating region into the common nomenclature of stellar structure lead us to call this dynamic region the *dustosphere* (Greek: *Kornioktosphere*) of the star. Although we restrict ourselves in the following to the dustospheres of AGB stars, we expect this definition to be useful for a variety of other objects, too.

A reliable code is presented which has been designed for the numerical simulation of pulsationally levitated atmospheres of AGB stars. The code has been developed during the early 1990's by Fleischer (1994) and Gauger (1990) and since then served as a platform to implement more and more advanced descriptions of microphysics and to investigate their impact on the dustosphere of AGB stars.