

TYPE I INTERMITTENT CHAOS IN HYDRODYNAMIC PULSATION MODELS

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Abstract. We investigate the cause of the transition from limit cycles to chaotic oscillations in pulsation of less-massive supergiant stars. For this purpose, we examine one of the models which has a limit cycle but is very close to the transition to the type I intermittency (Aikawa 1988, *Astrophys. & Space Sci.*, 139, 214). It is shown that the pulsational driving by the hydrogen ionization with the M type ionization front, which becomes very effective at amplitudes beyond the limit cycle, is responsible for the existence of another unstable fixed point beyond the limit cycle (see Aikawa, 1988, in press *Astrophys. & Space Sci.*) A merging process of these two fixed points makes the transition.