REVISITING THE BORN AGAIN (VLTP) SCENARIO: THE IMPORTANCE OF THE REMNANT'S MASS

M. M. Miller Bertolami¹, L. G. Althaus¹

We present 1-D numerical simulations of the very late thermal pulse (VLTP) scenario for a wide range of remnant masses. We show that by taking into account the different possible remnant masses, short born again times as those observed in V4334 Sgr (a.k.a. Sakurai's Object) and V605 Aql can be reproduced within the standard 1D-MLT stellar evolutionary models without the inclusion of any ad-hoc reduced mixing efficiency. From energetics, and within the standard MLT

approach, we show that low mass remnants ($M \leq 0.6 M_{\odot}$) are expected to behave markedly different than higher mass remnants ($M \geq 0.6 M_{\odot}$) in the sense that the latter are not expected to expand significantly as a result of the violent H-burning that takes place during the VLTP.

¹ Facultad de Ciencias Astronómicas y Geofísicas, Universidad Nacional de La Plata, Paseo del Bosque S/N, (1900) La Plata, Argentina.