

N21a **New results in the modeling of massive star pulsations**

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Massive stars are the cosmic engines that shape and drive our Universe, providing the interstellar medium new elements through their strong winds and violent fate. Many issues such as their formation, their structure, their stability and the mass loss events for example, are nowadays far from being completely understood. However, asteroseismology is a powerful technique to probe the internal structure of stars and excellent results have already been obtained. Ground-based and space observations have shown the presence of pulsations in massive stars, such as acoustic and gravity modes excited mainly by the *kappa*-mechanism. Moreover, theoretical studies emphasized the presence of strange modes in massive models, excited by the strange mode instability mechanism and a strange mode candidate has been observed in a hot supergiant (Aerts et al. 2010). Theoretical analyses have also shown that hot supergiants can pulsate in oscillatory convective modes propagating in the superficial layers of these stars (Saio 2011). Recently, a period of 1.59 hour has been observed in a B supergiant star (Kraus et al. 2012), challenging our understanding since the star is located outside the instability domains derived for massive stars. The results obtained from the modeling of this star are here presented and discussed.