

Institutsseminar

über

Recent advances on the stellar initial mass function (IMF)

The stellar initial mass function (IMF) is shown to end quite abruptly near $0.1M_{\text{sun}}$ such that brown dwarfs and very low-mass stars have their own IMF. This is deduced from the significantly different binary properties of the stellar and brown dwarf populations. By analysing the present-day stellar content of well observed globular clusters and of ultra-compact dwarf galaxies it has emerged that the stellar IMF appears to become increasingly top-heavy with increasing star-formation rate density and decreasing metallicity. The result of our recent work is a much more complete understanding of the stellar and sub-stellar IMFs and of the variation of the IMF with star-formation environment. Indeed, it emerges that the theoretically predicted systematic variation of the IMF seems to have been uncovered for the first time.

von

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des Institutes für Astronomie, Türkenschanzstraße 17, 1180 Wien

Univ.-Prof. Dr. Manuel Güdel
Univ.-Prof. Dr. Bodo Ziegler