Astronomy & Astrophysics

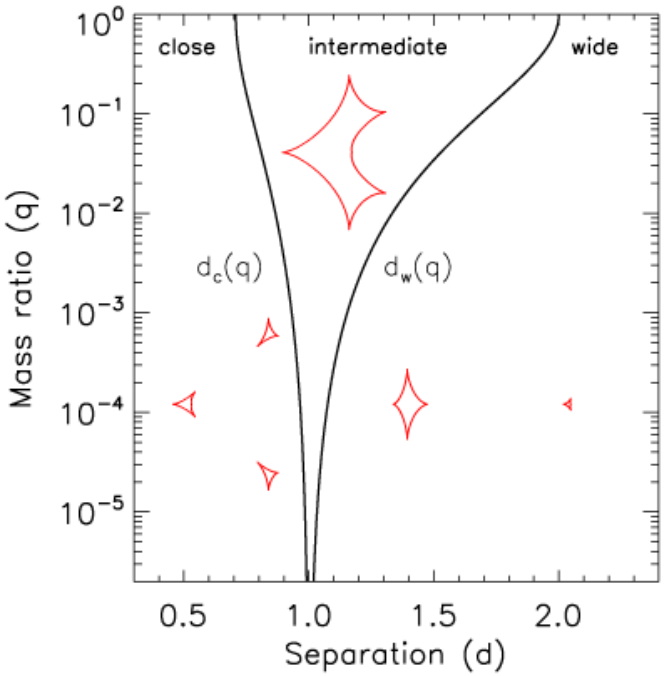
HIGHLIGHTS: this week in A&A

Volume 491-2 (November IV 2008)

In section 13. Astronomical instrumentation

"An alternative parameterisation for binary-lens caustic-crossing events",
by A. Cassan, A&A 491, p. 587

Microlensing has become a powerful probe of extrasolar planet populations, with a sensitivity function that complements the more established radial velocity method at wide separations. In microlensing events, detection of planets (and more generally stellar companions) relies on multi-parameter modeling of light-curve distortions relative to a point-source lensing model. Up to now, this has been a laborous and computer-intensive process, which actually limits the throughput of many microlensing planet searches. The author describes a reparametrization of the model with parameters that closely match the features of the light curve, rather than the lens configuration. This shows great promise for much faster and more automatic analysis of light curves, and thus more complete analysis of candidate events and faster reaction to on-going light curve changes.



In section 1. Letters

"Winds of M-type AGB stars driven by micron-sized grains", by S. Höfner, A&A 491, p. L1

Mass loss from AGB stars has broad implications for the chemical cycling of the interstellar medium and is thought to be due to radiation pressure on dust grains that form in matter lifted off the star by strong pulsations. However, this process has never been consistently demonstrated for oxygen-rich M giants. This paper presents the first self-consistent models of that process. It demonstrates that mass-loss rates and velocities are consistent with observations. It also shows the importance of self regulation of the grain size to a value for which grain acceleration is efficient.