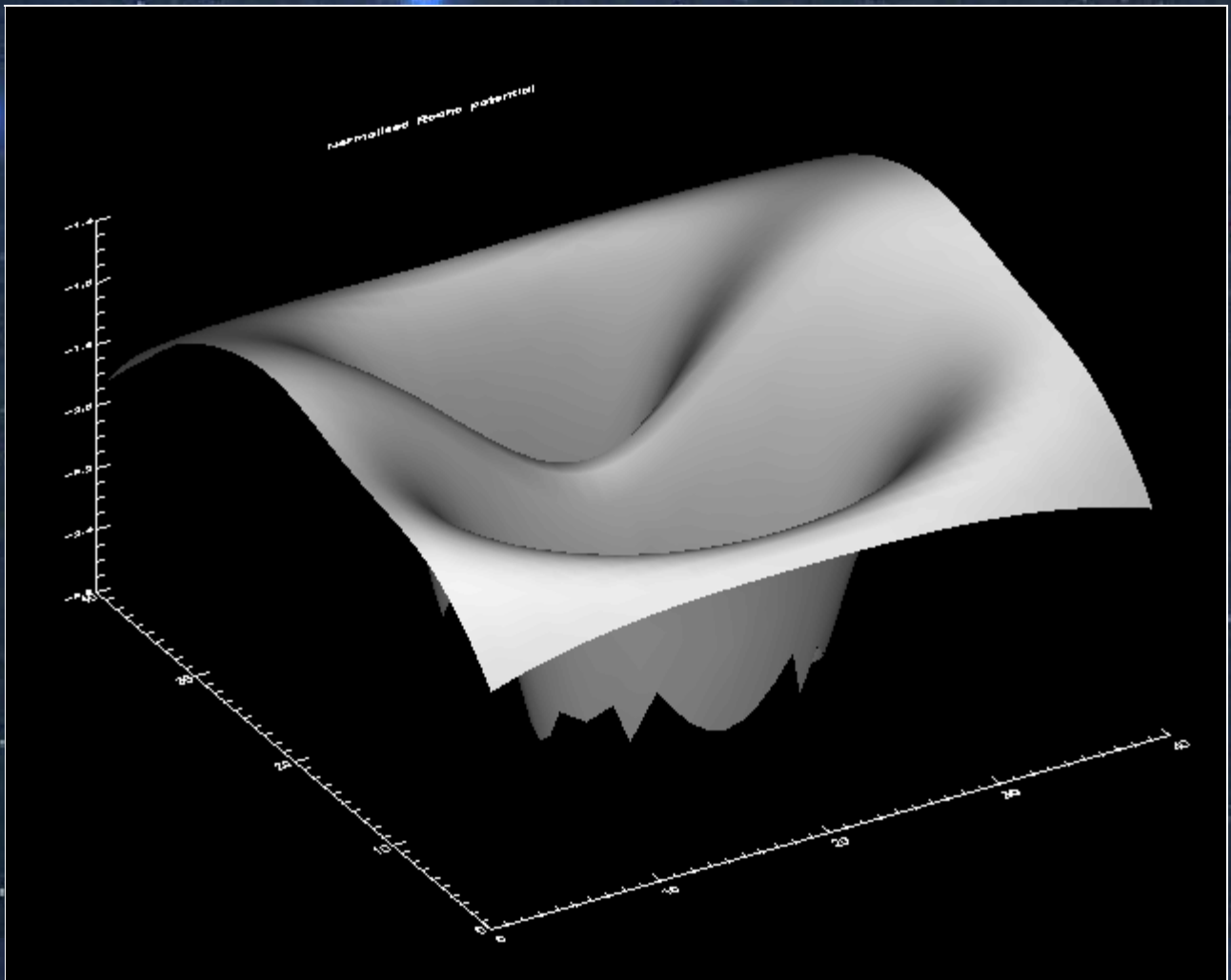


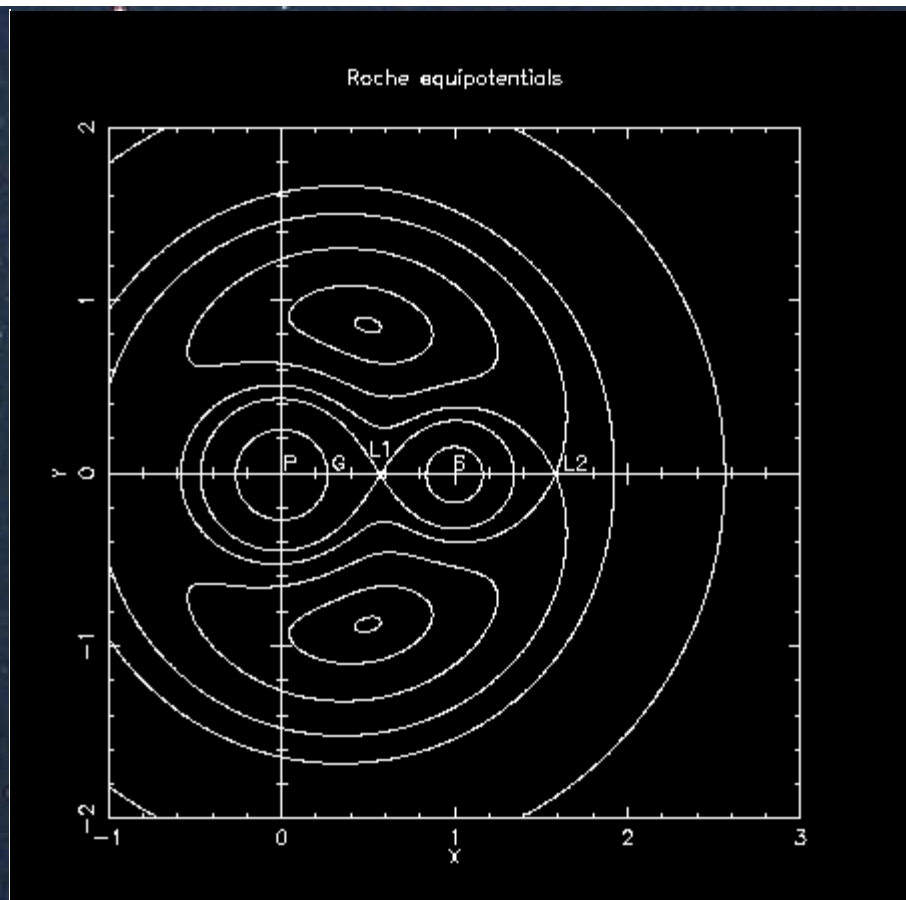
roche lobes



When two stars come together to form a close binary system, the gravitational fields of the two stars become distorted, as depicted in the image below.

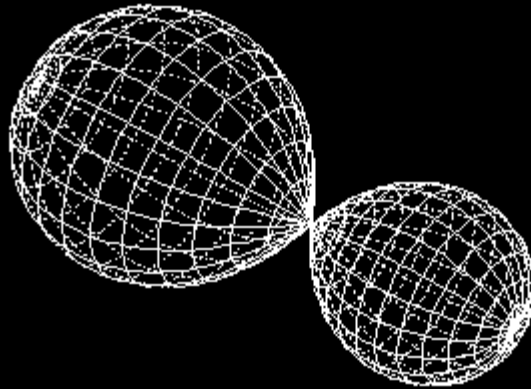


By plotting a contour map of the above image, we obtain the *Roche gravitational equipotentials*. The surfaces close to the centre of each star are spherical. Surfaces further and further from the stellar centres become more and more distorted until we reach the critical surface, which defines two cusped volumes, known as the *Roche lobes*. These are indicated in the image below by the figure-of-eight contour.



In three dimensions, the figure-of-eight potential defines a possible surface for the stellar components, as illustrated below.

primary mass	: 1.00 M_{Sun}	period	: 3.33 hours
secondary mass	: 0.50 M_{Sun}	inclination	: 45.00 degrees
separation	: 1.29 R_{Sun}	phase	: 0.15 orbits



Roche lobes in three dimensions