

Algunas Gráficas en \mathbb{R}^3

Análisis Matemático II

1º Ingeniería Informática

<http://www.uam.es/fernando.chamizo>

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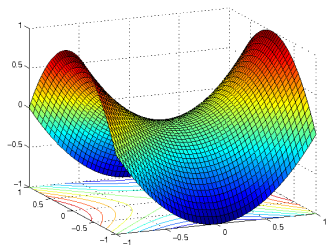
1 $x^2 - y^2$

2 $x^2y/(x^2 + y^2)$

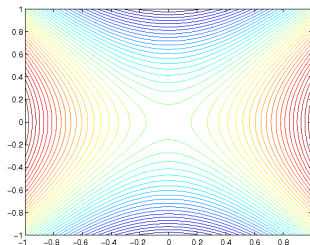
3 $xy/(x^2 + y^2)$

4 $x^2y/(x^4 + y^2)$

El paraboloide hiperbólico

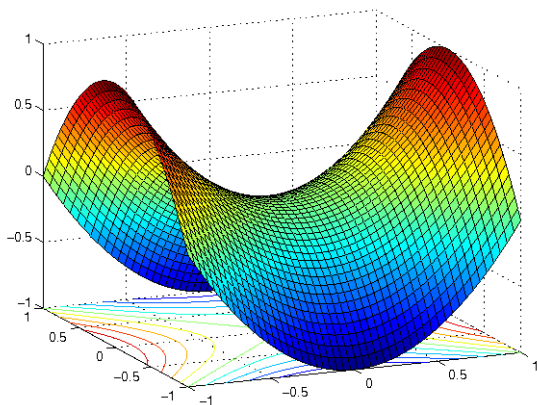


$$f(x, y) = x^2 - y^2$$



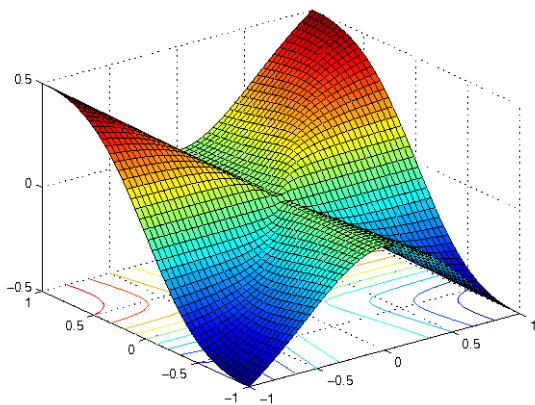
curvas de nivel

El paraboloide hiperbólico



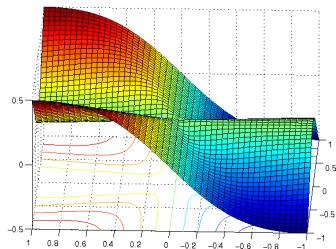
$$f(x, y) = x^2 - y^2$$

Una función continua

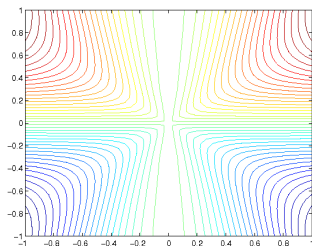


$$f(x, y) = \frac{x^2y}{x^2 + y^2}$$

Otra vista y curvas de nivel

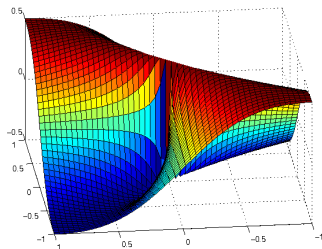


$$f(x, y) = \frac{x^2y}{x^2 + y^2}$$

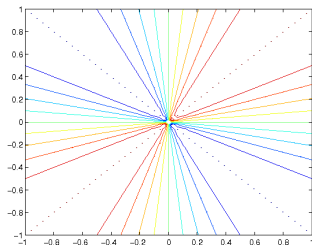


curvas de nivel

Una función discontinua con límites distintos por $y = mx$

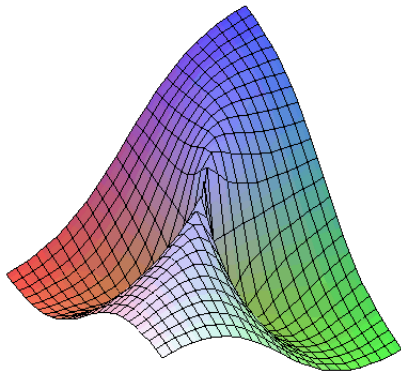


$$f(x, y) = \frac{xy}{x^2 + y^2}$$



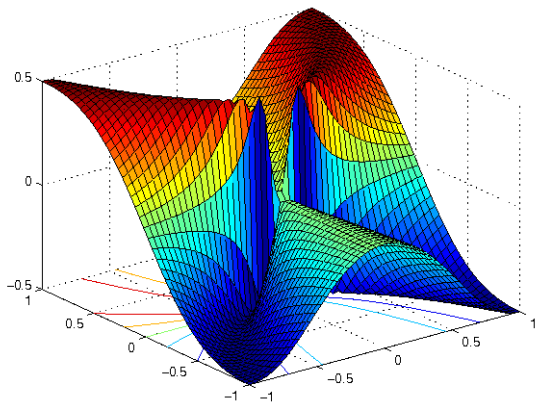
curvas de nivel

Otra vista



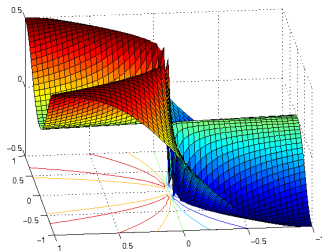
$$f(x, y) = \frac{xy}{x^2 + y^2}$$

Una función discontinua con límites iguales por $y = mx$

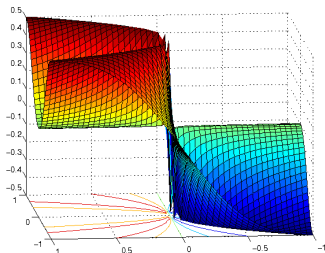


$$f(x, y) = \frac{x^2y}{x^4 + y^2}$$

Vistas mejores

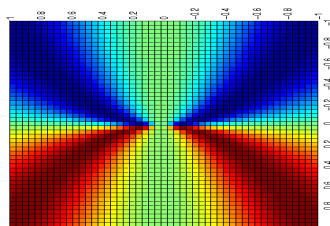


$$f(x, y) = \frac{x^2y}{x^4 + y^2}$$

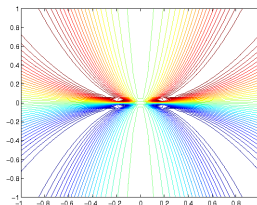


$$f(x, y) = \frac{x^2y}{x^4 + y^2}$$

Curvas de nivel



Visto desde arriba



curvas de nivel