

第六章 多元函数微分学

多元函数.

符号: 记 $R^n = \{ (x_1, x_2, \dots, x_n) \mid x_i \in R, i=1, 2, \dots, n \}$

定义: $\forall (x_1, x_2, \dots, x_n) \in D \subset R^n$, $f(x_1, x_2, \dots, x_n)$ 存在且唯一
 则 $f(D)$ 为 D 的 n 元函数, 定义域 ——
 值域 ——

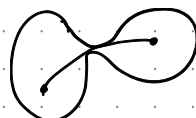
距离: $d = \sqrt{\sum (x_i - x_{i0})^2}$ $\xrightarrow{R^n \rightarrow R^1}$ 二元函数 $\sqrt{\sum |x_i - x_{i0}|}$ 一元函数

点: $\left\{ \begin{array}{ll} \text{内点,} & \exists U_r(P) \subset E \text{ 则 } P \text{ 为 } E \text{ 内点} \\ \text{外点,} & \exists U_r(P) \cap E = \emptyset \\ \text{边界点} & \text{既非外又非内} \end{array} \right. \quad \begin{array}{l} E^\circ \\ (E^\circ)^\circ \\ \partial E \end{array}$

集合 $\left\{ \begin{array}{l} \text{开集} \Leftrightarrow E^\circ = E \text{ (没有边界点)} \\ \text{闭集} \Leftrightarrow \text{包含所有边界点,} \end{array} \right.$

不连通: 

连通



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