
填写说明

- 1.本表最终需存入档案，请务必认真填写，关键信息部分不能有涂改，字迹清晰、工整；
- 2.简单的内容不作解释，可能有误的地方请参考指示填写，“XX”为根据实际情况替代部分，“/”意为“或者”。
- 3.建议流程：确认积极分子后由积极分子填写表格的基础信息部分，每季度由培养联系人填写一次培养联系，由支部填写完支部意见，直至称为发展对象，填写。
- 4.本填写意见中黑色字体为总体指导，红色部分为积极分子本人填写，紫色部分为培养联系人填写，蓝色部分为党支部填写，橙色部分为团支部填写，请不要混淆。

填写全称，可写成两行，如“中共
北京大学XX学院委员会XX支部”

生

填写与本人身份证一致的名字

本人所在学院或单位（全称）



性别

正面免冠照片

(2寸)

主要家
庭成员
情况



the \mathbb{R}^n -valued function $f: \mathbb{R}^n \rightarrow \mathbb{R}^n$ is a homeomorphism, then f^{-1} is differentiable at $f(x)$ and

$$Df^{-1}(f(x)) = (Df(x))^{-1}. \quad (1)$$

Proof. Let $f: \mathbb{R}^n \rightarrow \mathbb{R}^n$ be a homeomorphism. Then $f^{-1} \circ f = \text{id}$, and so

$$Df^{-1}(f(x)) \cdot Df(x) = D(\text{id})(x) = I_n. \quad (2)$$

Since f is a homeomorphism, $Df(x)$ is invertible, and so (2) implies (1). \square

As a consequence of the above theorem, we obtain the following corollary.

$$\text{Corollary 1.} \quad \text{If } f: \mathbb{R}^n \rightarrow \mathbb{R}^n \text{ is a homeomorphism, then}$$

$$Df^{-1}(f(x)) = (Df(x))^{-1}. \quad (3)$$

Proof. Let $f: \mathbb{R}^n \rightarrow \mathbb{R}^n$ be a homeomorphism. Then $f^{-1} \circ f = \text{id}$, and so

$$Df^{-1}(f(x)) \cdot Df(x) = D(\text{id})(x) = I_n. \quad (4)$$

Since f is a homeomorphism, $Df(x)$ is invertible, and so (4) implies (3). \square

As a consequence of the above theorem, we obtain the following corollary.

$$\text{Corollary 2.} \quad \text{If } f: \mathbb{R}^n \rightarrow \mathbb{R}^n \text{ is a homeomorphism, then}$$

$$Df^{-1}(f(x)) = (Df(x))^{-1}. \quad (5)$$

Proof. Let $f: \mathbb{R}^n \rightarrow \mathbb{R}^n$ be a homeomorphism. Then $f^{-1} \circ f = \text{id}$, and so

$$Df^{-1}(f(x)) \cdot Df(x) = D(\text{id})(x) = I_n. \quad (6)$$

Since f is a homeomorphism, $Df(x)$ is invertible, and so (6) implies (5). \square

As a consequence of the above theorem, we obtain the following corollary.

$$\text{Corollary 3.} \quad \text{If } f: \mathbb{R}^n \rightarrow \mathbb{R}^n \text{ is a homeomorphism, then}$$

$$Df^{-1}(f(x)) = (Df(x))^{-1}. \quad (7)$$



