

「创新灵感 - 创意之问」

冬季骑车有什么好妙招

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Smart Tips for Winter Cycling

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1 现象 Phenomenon

每日清晨7点左右，骑行者需驾乘电动车出行，单程路程约20分钟。北方冬季清晨气温常低至零下十几度，同时沿途有寒风侵袭，骑行过程中需双手持续握持车把手，完成方向控制、刹车制动及调速操作。

Around 7:00 AM daily, cyclists ride electric bikes for a one-way trip of approximately 20 minutes. In northern winters, morning temperatures often drop to below -10°C , accompanied by harsh winds along the route. During the ride, both hands must continuously grip the handlebars to control direction, operate brakes, and adjust speed (for two-wheeled electric bikes).

2 问题描述 Problem Description

佩戴厚重加绒手套时，虽能起到一定保暖效果，但手套体积大、灵活性差，会导致手指活动受限：捏刹车时反应延迟，调速时难以精准把控力度（二轮电动车），存在骑行安全隐患；使用电动车斗篷包裹双手及车身前部，保暖效果提升明显，许多人选择这种方式。但是，车辆长时间（约3小时）停放室外后，车把手温度与外界环境一致，冰凉刺骨，骑行者再次握持时会出现不敢握住把手的情况，需等待一段时间才能正常操控。此外，斗篷布料易缠绕车把开关，进一步增加安全风险。

While wearing thick, fleece-lined gloves provides some warmth, their bulk and poor flexibility restrict finger movement. This leads to delayed brake response, difficulty in precise speed adjustment (for two-wheeled electric bikes), and increased safety risks during rides. Many opt for using electric bike covers that wrap

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around the hands and the front of the vehicle, which significantly improves warmth. However, after the vehicle has been parked outdoors for an extended period (about 3 hours), the handlebars become as cold as the ambient environment, making them icy and painful to touch. Riders may hesitate to grip them firmly, requiring a waiting period before normal operation is possible. Additionally, the cover fabric can easily tangle with handlebar switches, further elevating safety hazards.

3 初步思考 Preliminary Considerations

寻求一种解决方案，既能避免厚重手套对骑行操控的影响，又能解决车辆室外停放后车把手冰凉的问题，使冬季骑行时双手保持温暖，同时不降低

车把操控的精准度，保障骑行安全。不限制研究方向，可从物理保温、机械结构优化加热、特殊保暖材料应用等方向，探索适合青少年实践操作、易落地的实现路径。

To explore a solution that avoids the impact of bulky gloves on riding control while addressing the issue of icy handlebars after outdoor parking. The goal is to keep hands warm during winter rides without compromising the precision of handlebar operation, thereby ensuring riding safety. Research directions are not limited and may include physical insulation, mechanical structural optimization for heating, or the application of specialized thermal materials. The focus is on identifying practical, feasible approaches suitable for implementation by young learners.

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