![](_page_0_Picture_1.jpeg)

## Análisis de la eficiencia del freno regenerativo en un vehículo eléctrico mediante pruebas experimentales [

2023

text (article)

Analítica

This paper presents a regenerative braking analysis of efficiency in real driving conditions and different road geographies. Factors affecting or benefiting energy recovery were identified, these are: the weight of the vehicle, torque, speed, inclination of road, and braking time; however, the sport and Eco driving modes were not considered because the same driving pace was chosen for the different routes. These results are intended to collaborate with real energy regeneration data and help investigators, academics, and automotive engineering, improving this system's efficiency. In the driving process, the state of charge (SOC), speed, torques, and road geography effect the efficiency of regenerative braking, as driving a vehicle on a road with irregular geography exposes it to aggressive physical factors, which considerably reduces its energy autonomy. The main aspects of recovery and regenerative braking efficiency were determined through quantitative data analysis, resulting in experimental surfaces and curves, which present the performance of current and deceleration during vehicle braking. Thus, it is shown that the energy recovery during braking is 78% considering the low autonomy of the electric vehicle

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