DEVICE FOR ASSISTING IN THE MANAGEMENT OF THE ENERGY CONSUMPTION OF A VEHICLE, METHOD, PROGRAM AND VEHICLE

Technological advantages

- **Reliable estimation for a vehicle autonomy even with no predefined directions**
- **Reduction in the electric power consumption**
- **Choice in directions depending on the energy consumed**

Invention synthesis

The invention deals with the management of the electric power consumed by a terrestrial vehicle using electric motors.

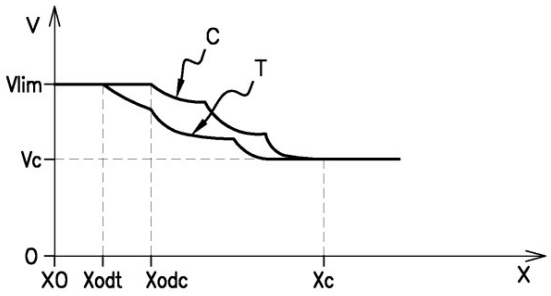
Deceleration and acceleration phases due to obstacles (such as intersections, traffic lights, dense traffic, …) strongly affect the energy consumed.

The invention proposes to compute the location corresponding to the optimal deceleration starting point. It is required to know the vehicle and the obstacles positioning, velocity. It is also needed to know the section properties (such as maximum speed limit, the drop or elevation, …) and the vehicle (car, truck, …) optimal deceleration profile.

Knowing the instantaneous (measured) vehicle acceleration as well as the vehicle positioning, the system drives the acceleration according to the optimal path. The system also compares the real vehicle velocity with the section maximum limits. Finally, the system is able to give a reliable prediction of the electric power to be consumed.

Potential applications

- Terrestrial vehicles : car, truck, train or ship



Schematic view for the optimal deceleration profile

(X) Vehicle position
(V) Vehicle velocity
(C) Optimal profile curve for a car
(T) Optimal profile curve for a truck
(X0) Start of a section
(Xc) Target location
(Xodt) Initial location for the truck optimal deceleration
(Xodc) Initial location for the car optimal deceleration
(Vc) Targeted speed
(Vlim) Speed limit

Commercial benefits

- Accurate prediction for an electric vehicle autonomy.
- Reduction in power consumption (optimal driving choice).
- Well suited to short sections such as found in urban areas.

Patented invention - under license.

For more information :

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