Abstract

This paper proposes a method for estimating emissions of carbon dioxide (CO2) and particulate matter (PM) from ships using Automatic Identification System (AIS) data. The method can be summarized in three steps: 1) capture of AIS data, 2) estimation of ships resistance, propulsion power, engine power and fuel consumption, 3) estimation of CO2 and PM emissions based on fuel consumption. The method has been developed to carry out a computer application for monitoring in real-time CO2 and PM emissions from ships sailing in the Strait of Gibraltar. A system for receiving AIS data broadcasted by ships sailing in the Strait of Gibraltar has been installed.


**Index Terms**

Computer Science

Applied Sciences
Keywords
Maritime pollution  Strait of Gibraltar  AIS data  ships  real-time system